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ANALYSIS OF
CONSTRUCTION WORKLOAD RESPONSIBILITY, U.S. NAVAL FACILITIES ENGINEERING COMMAND

by

Joshua Jon Gamez, B.S.

Thesis

Presented to the Faculty of the Graduate School of
The University of Texas at Austin
in Partial Fulfillment
of the Requirements
for the Degree of

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The University of Texas at Austin
August 2003

ANALYSIS OF
CONSTRUCTION WORKLOAD RESPONSIBILITY,
U.S. NAVAL FACILITIES ENGINEERING COMMAND

Approved by
Supervising Committee:

Supervisor: Richard L. Tucker

James A. Broaddus

Dedication

To my wife and best friend, Ana

and my two sons, Gavin and Adrian with love and appreciation.

Acknowledgements

I would like to express my sincere appreciation to my graduate advisor, Dr. Richard L. Tucker for his guidance and support in completing my thesis. It has been an honor to work under the guidance of an individual that has done so much for the University of Texas and the construction industry. I would also like thank Dr. James A. Broaddus for providing guidance throughout the entire process. The following individuals deserve a special thank you for their guidance and support: Mr. Dean Moon and Mr. Jack Courtillet, U.S. Navy; CAPT Darrell Van Hutten, CEC, USN; Mr. Sid Sanders, The University of Texas System; Mr. Tim Donathen, Texas A&M University System; Mr. Andrew McCullin and Mr. Bari Thomas, The DuPont Company. Additionally, I would like to thank the U.S. Navy Civil Engineer Corps for providing me with an opportunity to pursue a Master's degree.

Lastly and most importantly, I would like to thank my family: Ana, Gavin and Adrian. Thank you for your love, support, and sacrifice during this past year. I couldn't have done this without you.

August 11, 2003

Abstract

ANALYSIS OF CONSTRUCTION WORKLOAD RESPONSIBILITY, U.S. NAVAL FACILITIES ENGINEERING COMMAND

Joshua Jon Gamez, M.S.E
The University of Texas at Austin, 2003

SUPERVISOR: Richard L. Tucker

This thesis analyzes workload responsibility of construction administration personnel within the U. S. Naval Facilities Engineering Command (NAVFAC) and compares to three industry owner organizations (two public and one private). Specifically, an analysis of construction workload responsibility for three NAVFAC Field Office positions: Project Manager, Contract Specialist, and Quality Assurance Representative, is compared to industry personnel with equivalent positions and/or responsibilities. Additionally, the author discusses factors that influence the level of responsibility for the organizations' respective positions. The period of study is fiscal years 2000 through 2002. A questionnaire was utilized together with personal and phone interviews to complete this study.

TABLE OF CONTENTS

LIST OF TABLES...xi

LIST OF FIGURES xii

LIST OF FIGURES xii

CHAPTER 1: INTRODUCTION 1

- 1.1 Objectives 3
- 1.2 Scope 3
- 1.3 Thesis Organization.. 5

CHAPTER 2: BACKGROUND.. 6

- 2.1 Construction Administration 6
- 2.2 Organizational Structure 9
- 2.3 Summary 14

CHAPTER 3: STUDY METHODOLOGY 15

- 3.1 NAVFAC Data 15
- 3.2 Study Questionnaire 18
- 3.3 Construction Workload Responsibility 19
- 3.4 Summary 20

CHAPTER 4: U.S. NAVAL FACILITIES ENGINEERING COMMAND 21

- 4.1 History and Mission 21
- 4.2 Organization 23
- 4.3 ROICC Office 26
  - 4.3.1 Construction Contracting 30
  - 4.3.2 Project Manager 31
  - 4.3.3 Contract Specialist.. 32
  - 4.3.4 Quality Assurance Representative 33
  - 4.3.5 Qualifications 34

4.4 Summary 34

CHAPTER 5: THE UNIVERSITY OF TEXAS SYSTEM 35
5.1 History and Mission 35
5.2 Organization 36
5.3 Office of Financial Planning and Construction 38
5.3.1 CIP Process 39
5.3.2 Organization 40
5.4 ROICC Team Equivalents 42
5.4.1 Qualifications 43
5.5 Summary 44

CHAPTER 6: TEXAS A&M UNIVERSITY SYSTEM 45
6.1 History and Mission 45
6.2 Organization 47
6.3 Facilities Planning & Construction Department 49
6.3.1 Capital Project Program 49
6.3.2 Organization 50
6.4 ROICC Team Equivalents 52
6.4.1 Qualifications 53
6.5 Summary 54

CHAPTER 7: THE DUPONT COMPANY 56
7.1 History and Mission 56
7.2 Organization 58
7.3 Facilities Construction and Support Department 60
7.3.1 Organization 60
7.4 ROICC Team Equivalents 63
7.4.1 Qualifications 64
7.5 Summary 64

CHAPTER 8: DATA PRESENTATION 66
8.1 NAVFAC 66
8.1.1 Assumptions 67
8.1.2 Data 68
8.2 The U.T. System 70
8.2.1 Assumptions 70
8.2.2 Data 71
8.3 TAMU System 72
8.3.1 Assumptions 72
8.3.2 Data 72
8.4 The DuPont Company 73
8.4.1 Assumptions 74
8.4.2 Data 74
8.5 Summary 75
CHAPTER 9: QUANTITATIVE COMPARISON 77
9.1 Construction Workload Responsibility 77
9.2 Project Manager 78
9.3 Contract Specialist 80
9.4 Quality Assurance Representative 83
9.5 Total Staff 85
CHAPTER 10: CONCLUSIONS AND RECOMMENDATIONS 88
10.1 Conclusions 88
10.2 Recommendations For Further Study 91

APPENDIX A: NAVFAC NFOR DATA 92
APPENDIX B: STUDY QUESTIONNAIRE 109
APPENDIX C: THE U.T. SYSTEM DATA 111
APPENDIX D: TAMU SYSTEM DATA 117
APPENDIX E: THE DUPONT COMPANY DATA 123
GLOSSARY 129
REFERENCES 131
VITA 133

LIST OF TABLES

Table 4.1. Qualifications for NAVFAC ROICC Team 34

Table 5.1. U.T. System Qualifications for NAVFAC Equivalents 43

Table 6.1. TAMU System Qualifications for NAVFAC Equivalents 54

Table 7.1. DuPont Qualifications for NAVFAC Equivalents 64

Table 8.1. NAVFAC Data for FY 2000 through FY 2002 68

Table 8.2. NAVFAC CONUS Data for FY 2000 through FY 2002 69

Table 8.3. U.T. System Data for FY 2000 through FY 2002 71

Table 8.4. TAMU System Data for FY 2000 through FY 2002 73

Table 8.5. DuPont Data for FY 2000 through FY 2002 75

Table 9.1. Qualifications for NAVFAC Contract Specialist and Industry Equivalents 82

Table 9.2. Qualifications for NAVFAC Quality Assurance Representative and Industry Equivalents 85

LIST OF FIGURES

Figure 2.1. Organizational Structure (Naoum, 2001) 10

Figure 4.1. NAVFAC Organization 26

Figure 4.2. ROICC Office Organization 29

Figure 5.1. U.T. System Organization 38

Figure 6.1. TAMU System Organization 48

Figure 6.2. FP&C Organization 51

Figure 7.1. DuPont Company Organization Chart 59

Figure 7.2. FC&S Organization Chart 62

Figure 9.1. Mean Workload Responsibility for NAVFAC Project Manager and Industry Equivalents 78

Figure 9.2. Mean Workload Responsibility for NAVFAC Contract Specialist and Industry Equivalents 80

Figure 9.3. Mean Workload Responsibility for NAVFAC Quality Assurance Representative and Industry Equivalents 83

Figure 9.4. Individual Mean Workload Responsibility for Owner Organizations 86

CHAPTER 1: INTRODUCTION

The U. S. Naval Facilities Engineering Command (NAVFAC) plays an important role in the support of U.S. Navy and Marine Corps forces. NAVFAC's mission is to meet its client's need in the areas of facilities, installations, environmental, contingency engineering, and outsourcing. NAVFAC is composed of more than 16,000 military and civilian people and its annual volume of business is more than $8 billion (GlobalSecurity.org). One of NAVFAC's vital services to its clients is the administration of post-award construction contracts. The Field Office, also known as the Resident Officer in Charge of Construction (ROICC) office, is NAVFAC's field contracting office composed of Navy Civil Engineer Corps officers and civilians responsible for construction, design, and facilities service contract administration. There are currently 90 ROICC offices in the continental U.S. and overseas.

Similar to construction administration departments in industry, ROICC office personnel administer construction contracts and are responsible for the planning, scheduling, monitoring, and completion of projects. For the purposes of this study, an "industry organization" refers to any non-federal organization. NAVFAC developed the ROICC Office Model to ensure the appropriate staffing, skill mix, and technical support from NAVFAC Engineering Field Divisions/Activities will provide the most efficient service to its clients.

The structure and mission of every commercial, federal and public organization is unique. Uniqueness is also inherent in the organization's construction administration department: staffing, skill mix, contract processes, accountability and level of responsibility. NAVFAC is in a continual process to streamline its organization and assure efficient and effective services. Business case analyses have been performed to compare NAVFAC's business activities, specifically base operations and maintenance, to the commercial sector. However, owner construction administration functions (e.g. inspection, contractor progress payments and acceptance) for government projects are inherently governmental in nature. NAVFAC's ROICC functions will never be competed against the commercial sector. This leads us to the question - how does the personnel workload responsibility of NAVFAC's ROICC offices compare to industry organizations with similar construction administration functions?

Specific questions to be addressed in this study include: What is the level of workload responsibility placed on ROICC office construction administration personnel? How does this level of responsibility compare to industry personnel with equivalent positions and/or responsibilities? What organizational characteristics of NAVFAC's general ROICC office model are similar, or dissimilar, to industry construction administration departments? Do these characteristics relate back to level of workload responsibility?

1.1 OBJECTIVES

The overall objective of this study is to compare NAVFAC construction workload responsibility to the selected industry organizations. The overall objective will be accomplished by completing the following.

1. Perform a general analysis of annual construction workload responsibility for the ROICC Team during the period of FY 2000 through FY 2002.
2. Identify personnel within selected owner organizations with equivalent construction administration positions and/or responsibilities. Collect pertinent staffing and construction workload data.
3. Compare NAVFAC workload responsibility to the selected industry organizations.
4. Identify organizational factors that influence the organizations' levels of workload responsibility for each position.

1.2 SCOPE

A general analysis of construction workload responsibility will be performed on three NAVFAC ROICC office positions: Project Manager, Contract Specialist, and Quality Assurance Representative. This trio of NAVFAC construction administration personnel will now be referred to as the "ROICC Team". Specific responsibilities will be discussed in Chapter Four.

The period for this study is fiscal year (FY) 2000 through FY 2002. A FY cycle is October 1st through September 30th. For example, FY 2004 starts on October 1, 2003 and ends on September 30, 2004. The period of study was selected to retrieve current data and assure consistency. External environmental factors including the national economy, politics and global issues were relatively stable during the course of this period.

Industry organizations identified for comparison were selected on the basis of having similar characteristics to NAVFAC. These characteristics include: owner type, substantial volume of annual construction, internal construction administration personnel and data easy to collect.

The industry organizations are identified below with their respective construction administration departments.

- *The University of Texas System*, Office of Facilities Planning and Construction, Austin, Texas
- *Texas A&M University System*, Facilities Planning and Construction Department, College Station, Texas
- *The DuPont Company*, Facilities Construction and Support, Wilmington, Delaware

1.3 THESIS ORGANIZATION

Chapter Two provides a general background of construction administration and organizational structure. Chapter Three explains the methodology employed for this study. Chapter Four discusses the history, mission, and macro structure of NAVFAC. The organization of a typical ROICC office is examined and the post-award contract responsibilities of the ROICC Team are discussed. Chapters Five through Seven discuss the history, mission, and macro structure of the industry owner organizations. The owners' respective construction administration departments are examined and personnel with equivalent positions and/or responsibilities to the ROICC team are identified. Chapter Eight presents, for all organizations, annual work-in-place construction dollars and staffing data collected during the study period. Chapter Nine presents study assumptions and the analysis of comparing workload responsibility between the ROICC Team and industry equivalents. In closing, Chapter Ten presents conclusions drawn from Chapter Nine. A Glossary is provided to assist the reader with the terminology used in this study.

CHAPTER 2: BACKGROUND

This chapter presents background information of construction administration and organizational structure. Discussion will include the responsibilities of construction administration individuals and the elements and types of organizational structure.

2.1 CONSTRUCTION ADMINISTRATION

Construction projects involve three principal participants: the owner, the designer, and the general contractor. The owner, as the financer and driver of the project, utilizes an in-house staff of engineers or hires an architectural/engineer (A/E) firm to design a project that will meet the owner's business needs.

After the project has been planned and designed to the owner's satisfaction, the process begins to advertise the project and solicit proposals from construction contractors. The proposals are reviewed by the owner's contracting staff and the project is awarded to the contractor with the best value proposal. Depending on the complexity of the project, a general contractor, also known as the prime contractor, will hire subcontractors for specialized areas of construction and/or services. The prime contractor, not the subcontractors, is responsible for completing the project as outlined in the contract and in accordance with the project specifications. Construction contracts involve working relationships among numerous individuals. Various levels of construction administration are required from all primary participants to ensure a successful project.

Fisk (2000) defines *construction administration* as the broad responsibility of relating to all project-related functions between the parties of a contract. The functions include, but are not limited to, relations with contractors, communications, procedures, responsibility, authority, planning and scheduling, construction operations, coordination, payment administration, change orders, negotiations, dispute and claim handling, and project closeout.

Fisk (2000) identifies four individuals associated with construction administration with unique roles and responsibilities. The individuals below are defined from the owner's perspective.

Project Manager – A project manager (PM) is responsible for all phases of the project. The PM is involved in the infancy stages of pre-project planning, through the entire design process, awarding of the contract and contract close out. The PM may be involved in the selection of the A/E firm for design and will supervise staff or initiate a separate contract for construction administration.

Construction Manager – The services of a construction manager (CM) will overlap in the design and construction phases of a project. Tasks include bidding strategy input, design phase review, cost and schedule management, proposal evaluation, contractor selection, and on-site construction phase management. On-site construction phase management includes phasing, coordinating, determining conformance of materials and quality of work to the project specifications, preparation of contract modifications, and contractor progress payments.

Quality Control Representative – A quality control representative is a member of the contractor's organization and is responsible for the quality control (QC) plan. A QC plan is an inspection system implemented by the contractor to assure the work of the prime contractor and subcontractors meets project specifications. Documentation of QC inspections and training is provided to the owner's quality assurance representative. The frequency and level of detail associated with the contractor's documentation is specified in the QC plan.

Quality Assurance Representative – The quality assurance (QA) representative spends most of his/her time in the field observing the contractor's work and notifies the CM of any variations from the plans and specifications. QA representatives do not have contractual authority to direct the contractor to perform work outside of the plans and specifications. However, the QA representative should be able to evaluate and solve any problems encountered in the field and make recommendations to the CM.

The organization of a construction administration team affects internal and external relationships of and how well a team can efficiently manage numerous projects without delays. The roles and responsibilities of four construction administration individuals were discussed in this section. In the forthcoming section, the author discusses the factors that influence organizational structure and the pattern of construction management.

2.2 ORGANIZATIONAL STRUCTURE

An organization's structure, effectiveness, and development is influenced by many factors. The environment surrounding an organization and its projects, including social, economical, political, and technological factors, has a major impact on organizations. The behavior of the environment affects the actions of an organization. Social factors include income, work attitudes, and lifestyle changes. Economic factors include inflation, energy issues, and disposable income.

As Naoum (2002) explains, "In order for an organization to survive, it requires a business strategy to link its operational and administrative activities with the external environment" (p. 42). Corporate strategy is essential for any organization. Strategy identifies the organization's mission and sheds light on the organization's weaknesses and strengths. Strategy lays the road map ahead to create business opportunities or plan for significant changes due to the external environment or internal attitudes. Organizations develop a strategy to increase efficiency, overcome an obstacle, plan for the future, develop, and create a positive and motivating work environment.

Figure 2.1 presents the pattern of management and the factors that affect an organization's structure.

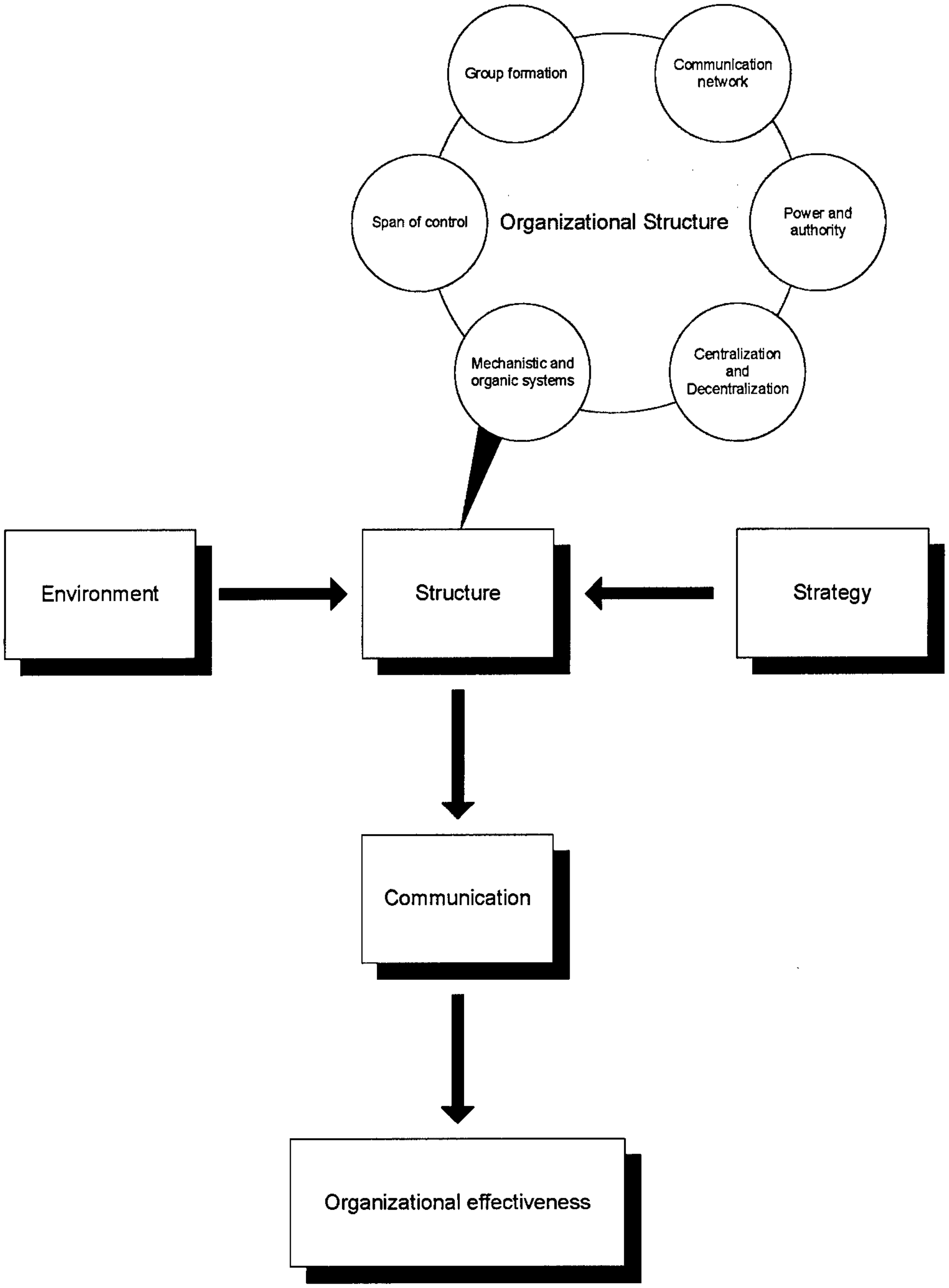


Figure 2.1. Organizational Structure (Naoum, 2001)

Organizational structure is defined as achieving an objective by assembling individuals, defining tasks, and establishing the chain of command (or reporting lines). Naoum associates five elements to organizational structure: group formation, communication network, power and authority, centralization and decentralization, leadership styles, and span of control.

Group formation – The formation of departments by individual skills and work experience, work functions and processes, and by clients. Group formation objectives include distribution of work, management of work, information processing, coordination, and conflict resolution.

Communication network – Information must be efficiently obtained, transferred, and shared by various departments to achieve objectives. Communication networks vary with the structure of the organization. An organization with set tasks and processes is most likely to have an efficient communication network. In contrast, an organization operating in a complex and uncertain environment will constantly change its communication network in order to adapt to the current challenges.

Power and authority – As with communication networks, power processes vary between organizations. Power processes include the authority, allocation, and delegation of power.

Centralization and decentralization – Centralized authority is typically located at the top of an organization's hierarchy. Centralized authority is suitable for specialized organizations, easy to coordinate and control, and decision making is fast but distant from operational level. In a decentralized organization, the power is disseminated through different departments. Decentralized authority is suitable for standardized organizations, more complex with respect to coordination and control, and slow at decision making but closer to the operational level.

Leadership styles – Leadership styles can be divided into two areas: mechanistic and organic. Traits of mechanistic leadership include emphasis on functional specialization, defined position descriptions with rights and obligations, hierarchic structure and control, tendency for interaction between superiors and subordinates, and operations are governed by the supervisors' instructions and decisions. The characteristics of an organic leadership include contribution of special knowledge, nature of individual tasks, network of control, authority, and communication, lateral direction of communication, and informative communication rather than instructive.

Span of control – Span of control is defined as the number of relationships and subordinates under a supervisor. There are two types of span of control: narrow and wide. In a narrow span of control, the reporting lines are long with small groups. Wide span of control consist of smaller reporting lines and larger groups.

Naoum (2001) classifies organizational structures into three types. They types are listed and described below.

The simple structure – A business in its early stages of development is an example of a simple structure. The owner handles most of the management responsibilities. The characteristics of a simple structure include centralized power, a wide span of control, informal communication, direct supervision, single decision making, and fast reaction to a dynamic environment.

The functional structure – In a functional structure, supervisors have authority over subordinates in their departments or divisions only. A functional structure is characterized by decentralization of functional power, a narrow span of control, direct and indirect supervision, formal communication, having a business strategy, and a slow reaction to a dynamic environment.

The matrix structure – This structure is common for large organizations with complex projects and require horizontal hierarchy (in addition to vertical hierarchy) to improve coordination and functions between departments. The matrix structure can be applied at the organizational level and the project level. The characteristics of a matrix structure include functional power, shared expertise, a narrow span of control, direct supervision and operational control, integrated group decision making, having a responsive strategy, and fast response to a dynamic environment.

2.3 SUMMARY

In this chapter, construction administration was defined as the broad responsibility relating to all project-related functions between the parties of a construction contract. The roles and responsibilities of specific construction administration individuals were discussed. Organizational structure was defined as achieving an objective by assembling individuals, defining tasks, establishing the chain of command, and was influenced by the environment and business strategy. Organization structure consists of five elements and can be classified into three types. The forthcoming chapter discusses the methodology employed to accomplish this study.

CHAPTER 3: STUDY METHODOLOGY

In order to achieve a successful apples to apples comparison of construction workload responsibility, a methodology was employed to (1) collect staffing and construction workload data from NAVFAC (2) research and become familiar with the staff and contract process of the construction administration departments within the industry organizations and (3) collect pertinent data from the industry organization for analysis and comparison.

3.1 NAVFAC DATA

The author first contacted NAVFAC Headquarters to acquire staffing and annual construction workload data from all ROICC offices. NAVFAC has a total of 90 ROICC offices in the continental U.S. and overseas. ROICC office locations are provided in Appendix A. ROICC offices report staffing and workload numbers biannually to NAVFAC via the NAVFAC Field Office Readiness (NFOR) reports. The NFOR report is NAVFAC's tool for assessing ROICC office readiness. In addition to staffing and annual workload, all ROICC offices report total personnel qualifications, logistics and information technology. A staffing number is computed for each ROICC office using a staffing algorithm. The algorithm plays a significant role in the budgeting and staffing of each ROICC office.

Workload numbers are reported in the NFOR report as Type I construction work-in-place (WIP), Type II construction WIP, and Facility Service Contracts WIP. The NAVFAC Contracting Manual, P-68, defines WIP as the value of construction, repair, and maintenance work put in place, during a specific period, including paid materials on site and certified land acquisition (U. S. Naval Facilities Engineering Command). NAVFAC defines *Type I* construction as construction involving sophisticated engineering and design, or requires plans and specifications. *Type II* construction is defined as construction requiring limited technical design, and can be executed by delivery order/task order contracts or can be executed by a Public Works Center (PWC) or Public Works Department (PWD) in-house forces.

NAVFAC accumulates NFOR data submitted by all ROICC offices on Microsoft Excel spreadsheets and organizes the spreadsheets by reporting periods. The spreadsheets contain the following information (items in *italics* were extracted from the spreadsheets and utilized for this study).

- Engineering Field Division/Activity name
- Field Office name
- Area construction factor
- *Annual Type I construction WIP*
- Annual Type II construction WIP
- Annual Facilities Service Contracts WIP

- *Staffing numbers for Civil Engineer Corps officers, contract specialists, project managers, and quality assurance representatives*
- Staffing algorithm numbers for all positions

Prior to November 2000, NFOR reports were submitted on a quarterly basis. ROICC offices currently submit NFOR reports on a biannual basis. Refer to Appendix A for NFOR data from FY 2000 through FY 2002. The period of study, FY 2000 through FY 2002, was selected to retrieve current data and assure consistency.

For each reporting period, ROICC offices report the latest status of annual construction WIP dollars. Therefore, annual WIP dollars from early FY reports are the offices' best estimate. The most accurate numbers are provided during the last reporting period of the FY. To account for the differences in construction WIP dollars reported and staffing fluctuations, the mean annual construction WIP and the mean quantity of personnel was used for analysis.

The spreadsheets reviewed included the following reporting periods.

- FY 2000 – March 2000, June 2000, and September 2000
- FY 2001 – November 2000, January 2001, and July 2001
- FY 2002 – January 2001 and July 2001

61 of NAVFAC's 90 ROICC offices are located within the continental U.S. (CONUS). Therefore, data has been categorized into two groups: "NAVFAC" and "NAVFAC CONUS". The "NAVFAC" group includes data from all 90

ROICC offices whereas the "NAVFAC CONUS" group only consists of data from CONUS ROICC offices. ROICC offices located outside the continental U.S. are referred to as OCONUS ROICC offices. The purpose for dividing NAVFAC data into two groups is to assure the data from OCONUS ROICC offices was consistent with CONUS ROICC offices.

3.2 STUDY QUESTIONNAIRE

The author developed a questionnaire and used it as an interview guide to acquire the following data from the industry organizations.

- Macro organization chart
- Construction administration organization chart
- Position descriptions and qualifications for all construction administration personnel
- Description of construction contract processes
- Annual construction WIP dollars or equivalent
- Annual staffing numbers for all construction administration personnel

The questionnaire is located in Appendix B. A courtesy copy of the questionnaire was forwarded to senior facility representatives within each industry organization prior to personal or phone interviews. The facility representatives are identified below.

- *Assistant Vice Chancellor of Facilities and Construction*, Office of

Facilities Planning and Construction, The University of Texas System

- *Executive Director*, Facilities Planning and Construction Department, Texas A&M University System
- *Engineering Director*, DuPont Engineering, The DuPont Company

Personal interviews were then conducted with the aforementioned representatives from The University of Texas System and Texas A&M University System. Several phone interviews were conducted with a DuPont engineer from the Facilities Construction and Support Department.

3.3 CONSTRUCTION WORKLOAD RESPONSIBILITY

An objective of this thesis is to analyze and compare construction workload responsibility between NAVFAC and the selected industry organizations. The individuals that make up the ROICC Team have unique post-contract award construction administration duties; therefore, an individual analysis of workload responsibility can be accomplished for each position.

For the purposes of this study, construction workload responsibility is defined as:

Annual Construction Work-in-Place ($) / Quantity of Personnel

NAVFAC defines WIP as the value of construction work put in place during a specific period. The metric above is simple and straightforward and provides us with average annual responsibility for any construction administration position in question. Additionally, the use of this metric allows us the author to disregard staffing allocation (i.e. the quantity and mix of personnel assigned to manage a single construction project).

3.4 SUMMARY

NAVFAC construction workload and staffing data was extracted from NFOR (NAVFAC Field Office Readiness Reports) spreadsheets covering various reporting periods during FY 2000 through FY 2002. Interviews were conducted with the selected industry organizations to acquire (1) specific information regarding the operations and responsibilities of construction administration personnel and (2) collect pertinent staffing and WIP data during the study period. The metric to be utilized for comparison, construction workload responsibility, was defined and justified.

The next three chapters will discuss the history, mission, and macro structure of each organization and examine the organizations' respective construction administration departments.

CHAPTER 4: U.S. NAVAL FACILITIES ENGINEERING COMMAND

This chapter provides an overview of the U.S. Navy Facilities Engineering Command (NAVFAC) and discusses the role of the Resident Officer in Charge of Construction (ROICC) office with emphasis on the responsibilities of the ROICC Team: Project Manager, Contract Specialist and Quality Assurance Representative.

4.1 HISTORY AND MISSION

NAVFAC's beginnings are traced to 1842 when it was then known as the Navy Bureau of Yards and Docks. At that time, the Bureau was composed of only civilian engineers and was responsible for seven ship yards, four ordnance magazines, and five naval stations. On March 2, 1867, Congress passed a bill wherein the President appointed all Navy civil engineers. As a result, civil engineers were listed in a publication of commissioned and warrant officers and were included in the annual pay. Thus, March 2, 1867 is celebrated as the birth of the Navy Civil Engineer Corps (CEC).

By the 1900's, the Bureau had 40 officers and the first CEC officer had been appointed as the Chief of the Bureau of Yards and Docks - preceding Bureau chiefs were line officers. The Spanish-American war highlighted the need for CEC officers as the treaty at war's end established naval stations in Puerto Rico, Guam, Philippines and Cuba. Existing yards were modernized and new yards were being built at an enormous pace.

During World War I, the Bureau consisted of more than 200 CEC officers responsible for over $300 million for the construction of training camps, submarine bases, and naval air stations throughout the U.S. and abroad. The period after the war saw a decline in CEC officers to fewer than 150. The start of World War II found the Navy's shore establishments unprepared for technological advances. Again, the need for CEC officers was great and the Bureau managed over $9 billion in construction of facilities, hospitals, air bases and repair facilities during 1940 to 1945. By 1945, the Bureau was over 12,000 CEC officers strong. It was also during World War II that the Naval Construction Battalions were founded to perform construction in combat areas. Commanded by CEC officers, the men of the Naval Construction Battalions, also known as Seabees, were experienced construction workers trained with weapons for self defense. The Seabee motto, "We build, we fight" was born and the Seabees played a significant role in the Allied victory.

Following World War II, the CEC and Seabees saw action in Korea during the 1950's and in Vietnam from the mid 1960's to the early 70's. The demand for Seabees in Vietnam was great and the number of battalions increased from ten to twenty-one. There are currently ten active battalions – eight mobile construction battalions and two amphibious construction battalions.

"NAVFAC is the U.S. Navy's facilities, installation, and contingency engineers" (U. S. Naval Facilities Engineering Command). The U.S. Marine Corps, the Department of Defense and other federal agencies are also NAVFAC clients.

NAVFAC is responsible for the planning, design, and construction of shore facilities - a key player in assuring the readiness of the U.S. Navy and Marine Corps combat forces worldwide. NAVFAC's specialized operations include: (1) Naval Construction Force – Seabee battalions capable of immediate deployment anywhere in the world to support contingency engineering operations (2) Naval Facilities Engineering Service Center - specialized engineering and products and (3) the Navy Crane Center - responsible for the engineering, procurement and evaluation of the Navy's shore based crane program.

4.2 ORGANIZATION

NAVFAC is headquartered in Washington D.C. Responsibility is established by geographic areas and is divided among four Engineering Field Divisions (EFD).

- Atlantic Division, Norfolk, VA
- Pacific Division, Pearl Harbor, HI
- Southern Division, Charleston, SC
- Southwest Division, San Diego, CA

An EFD's responsibility is focused on facility acquisition: contract award, issue contract warrants, and provide field guidance and environmental regulation. An EFD may have a smaller subordinate activity called an Engineering Field Activity (EFA). EFA's have similar functions as EFD's but are smaller in size. There are currently seven EFA's within NAVFAC.

- EFA Chesapeake, Washington D.C.
- EFA Mediterranean, Naples, Italy
- EFA Midwest, Great Lakes, IL
- EFA Northeast, Lester, PA
- EFA Northwest, Poulsbo, WA
- EFA Southeast, Jacksonville, FL
- EFA West, Daly City, CA

Another EFD subordinate is the Officer in Charge of Construction (OICC). In comparison to ROICC offices, OICC's support a geographical area whereas a ROICC office will support activities on a naval base. NAVFAC contains three OICC's.

- OICC Far East, Yokosuka, Japan
- OICC Marianas, Guam
- OICC Naples, Italy

The ROICC offices are a subordinate organizational element of a respective EFD/A at the naval activity/base level. In addition to construction, the ROICC offices execute and administer facilities service and A/E design contracts.

For geographical areas with a large concentration of naval activities, the purview of facilities management and maintenance falls under a Public Works Center (PWC). In comparison to PWC's, a naval base may have a smaller Public Works Department (PWD) headed by a CEC officer, also known as a Public Works Officer (PWO). A PWO directly reports to the base commanding officer whereas the commanding officer of a PWC reports to a regional commander. There are nine PWC's including six in the continental U.S., a PWC in Hawaii, a PWC in Guam, and a PWC in Japan.

A NAVFAC organizational chart is presented in Figure 4.1.

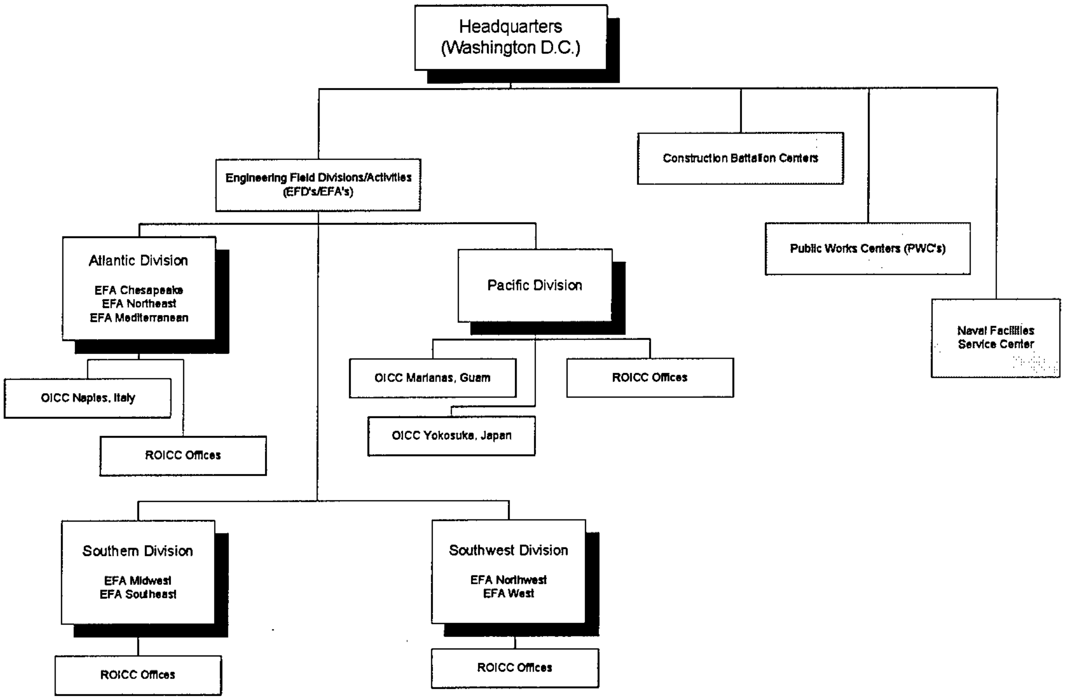


Figure 4.1. NAVFAC Organization

The forthcoming section will discuss the organization and operations of the ROICC office the responsibilities of the Project Manger, Contract Specialist, and Quality Assurance Representative.

4.3 ROICC OFFICE

As previously discussed, the mission of the ROICC office is to execute and administer construction, facilities service and A/E design contracts. The categories of NAVFAC construction contracts are vast: projects range from bachelor quarters to ship piers to ship repair facilities to commercial buildings to residential housing to aviation hangars. Most construction projects are awarded at the EFD/A level and the ROICC office is responsible for the field construction administration. Construction contract types include design build, firm fixed price, cost reimbursement, and negotiated contracts.

Each ROICC office is unique in some form or another. No two offices handle the day to day construction administration functions in the same manner. Therefore, the ROICC office organization presented here is general and is typical for most offices. The common thread is the responsibilities and duties of the ROICC Team.

The title, ROICC, refers to a CEC officer typically with a U.S. Naval rank of Lieutenant Commander or Commander. The ROICC is responsible for the overall management of the office and the administration of assigned contracts. An EFD/A will delegate contracting authority to the ROICC. As a contracting officer (KO), the ROICC has the authority to enter, modify or terminate a contract in compliance with the Federal Acquisition Regulation and other applicable federal laws.

The ROICC is supported by a construction administration team of CEC officers and civilians. The team consists of:

Resident Engineer in Charge of Construction (REICC) – a civilian engineer designated by the ROICC for technical support and oversight of projects.

Assistant Resident Officer in Charge of Construction (AROICC) – a CEC officer (junior in rank to the ROICC) designated by the ROICC to administer construction contracts.

Project Manager – also known as the Assistant Resident Engineer in Charge of Construction (AREICC), a civilian engineer designated by the ROICC to administer construction contracts.

Contract Specialist – responsible for contract administration that involves executing contractual actions.

Quality Assurance Representative – responsible for quality assurance and surveillance of the contractor's work and quality control plan.

Office Assistants – assist with the contracting paperwork.

A typical ROICC office organization is presented in Figure 4.2.

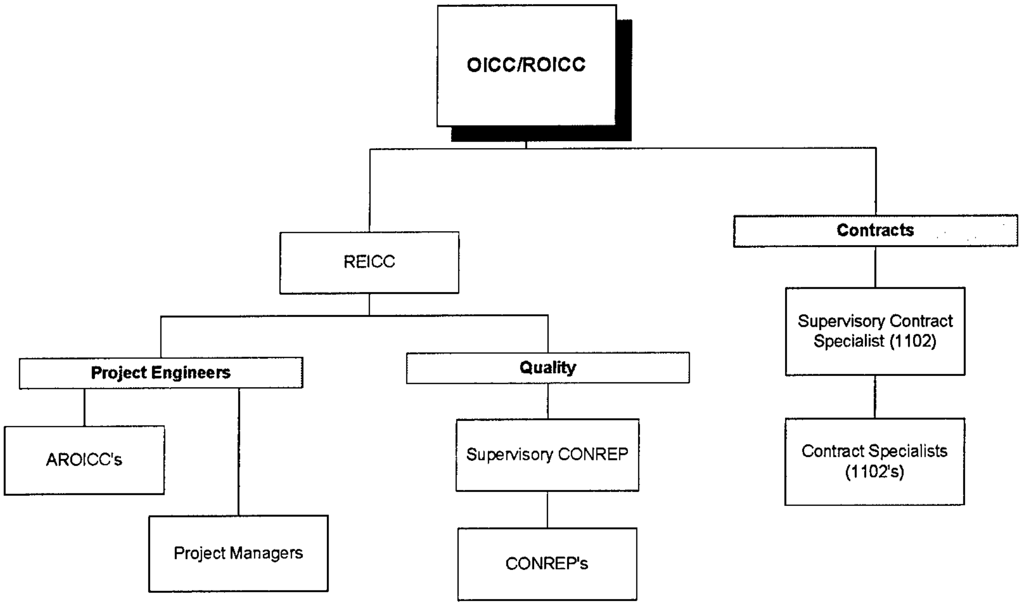


Figure 4.2. ROICC Office Organization

It's important to note that ROICC civilian employees are on a pay scale known as the General Schedule (GS). The levels, or grades, vary from GS-1 up to the highest grade of GS-15. Additionally, each GS grade has ten pay steps based on time in service and work performance. The duties and responsibilities of, for example, a GS-11 Project Manager are more demanding than a GS-09 Project Manager. Also, a GS-11 Project Manager would require little or no supervision where a GS-09 may be supervised periodically. Similarly, the level of responsibility given to CEC officers is primarily based on rank.

The issue of civilian seniority and military rank for ROICC Team positions is important to remember when comparing workload responsibility to industry personnel with equivalent positions and/or responsibilities. This issue will be addressed in Chapter Nine. The next three sections will provide a general overview of construction contracting and explain the duties of the Project Manager, Contract Specialist, and Quality Assurance Representative.

4.3.1 Construction Contracting

Funds for construction projects are categorized into four areas: (1) Navy and Marine Corps Operation and Maintenance (O&M) (2) Other than Navy and Marine Corps O&M (3) Nonappropriated and (4) Department of Defense Military Construction, also known as MILCON.

NAVFAC's contracting methods include sealed bidding, negotiation, and simplified acquisition procedures (contracts less than $100,000). The Federal Acquisition Regulation, or FAR, is a document that provides guidance on construction acquisition policies and procedures. Common construction contracts include the following types.

Firm Fixed Price – a contract used when the quantity, quality, and delivery time of a project is known.

Design-Build – a single contractor has complete responsibility for both design and construction.

Solution Order Concept (SOC) - a multiple award, indefinite quantity contract for design build services. Contractors have been selected to the SOC program after competing on a "seed" project.

Job Order Contract (JOC) - a firm fixed-price, indefinite quantity contract which contains a database of priced line items for construction work. The line items provide a basis for the negotiation of firm fixed-price work orders.

Multi-Trade Contract - similar to a JOC contract, this is a firm fixed-price, indefinite quantity contract which contains priced labor rates and established material costs.

4.3.2 Project Manager

The Project Manager and AROICC have identical construction administration functions. The only difference between the two is a matter of title; a Project Manager is a civilian on the GS pay scale whereas the AROICC is a CEC officer.

The Project Manager has limited pre-award duties. He/she may be asked to perform a review of a partial or complete design package before a contracting strategy is selected.

Responsibilities of the Project Manager/AROICC are listed below per NAVFAC position descriptions:

- Knowledgeable of the project scope of work by reviewing plans and specifications of assigned projects
- Assure timely completion of projects in accordance with plans and specifications
- Interprets and clarifies intent and purpose of plans and specifications
- Investigates proposed field conditions requiring change from plans and

specifications

- Determines degree of tolerance to be granted to contractors within plans and specifications
- Approves workmanship and installations
- Investigates and approves contractor requested delays
- Works with, coordinates, and maintains public relations between representatives of the Government, contractor, and A/E
- Conducts preliminary and final joint inspections

4.3.3 Contract Specialist

The purpose of a Contract Specialist is to perform pre-award and post-award contracting services.

Responsibilities of the Contract Specialist are listed below per NAVFAC position descriptions:

- Coordinates acquisition planning
- Coordinates specification requirements development and issues solicitations
- Evaluates responses to solicitations
- Negotiates prices, terms and conditions
- Prepares price negotiation memoranda
- Processes both pre and post award protests
- Prepares award documentation
- Serves as a KO (Contracting Officer)

4.3.4 Quality Assurance Representative

The Quality Assurance Representative, also known as the CONREP (for Construction Representative), is responsible for quality assurance and surveillance of the contractor's work and quality control plan.

Responsibilities of the Quality Assurance Representative are listed below per NAVFAC position descriptions:

- Is cognizant of the contract plans and specifications
- Studies and monitors the contractor's Quality Control Plan
- Maintains surveillance over work of contractors to assure work is in accordance with the contract plans and specifications and the contractor's Quality Control Plan
- Renders advice and support to the Project Manager on problems encountered
- Determines degree of tolerance granted to contractors within the intent of contract plans and specifications
- Investigates and provides recommendations to the Project Manager for delays requested by contractors
- Enforces compliance with safety regulations specified in the contract plans and specifications
- Conducts preliminary and final joint inspections of construction work

4.3.5 Qualifications

Table 4.1 presents NAVFAC's required qualifications for the Project Manager/AROICC, Contract Specialist and Quality Assurance Representative. Civilian grades noted represent a mid-level position within the GS pay scale.

Table 4.1. Qualifications for NAVFAC ROICC Team

Description	Position		
	Project Manager (Grade GS-9)/AROICC	Contract Specialist (Grade GS-9)	Quality Assurance Representative (Grade GS-4)
Education	BS degree in Professional Engineering or combination of education and experience	Bachelor's degree w/ a major in any field or at least 24 semester hours in any combination of specific fields	High school diploma or equivalent and 2 years of courses above high school related to the occupation
Experience	>1 year of appropriate professional experience (civilian only)	1 year equivalent experience as GS-5 and 1 year as GS-7	>6 months experience as CONREP
Licenses, Certificates or Registrations	None	None	None

4.4 SUMMARY

NAVFAC is responsible for the planning, design, and construction of shore facilities for the U.S. Navy and Marine Corps Team. The ROICC office is NAVFAC's field office responsible for administering construction contracts. The ROICC is a CEC officer responsible for the overall management of the office and the administration of assigned contracts. He/she is supported by a construction administration team of CEC officers and civilians. ROICC Team member responsibilities were discussed and will serve as the basis for finding industry personnel with equivalent positions and/or similar responsibilities.

CHAPTER 5: THE UNIVERSITY OF TEXAS SYSTEM

This chapter provides an overview of the University of Texas System, discusses the role and organization of the Office of Facilities Planning and Construction (OFPC), and identifies OFPC staff with equivalent positions and/or responsibilities to NAVFAC's ROICC Team.

5.1 HISTORY AND MISSION

The University of Texas was founded in Austin, Texas in late 1883. The University originated from the Congress of the Republic of Texas via an act in 1839 to locate and set aside a site for a university. Subsequent acts allocated over 231,000 acres of land and $100,000 in United States bonds for the establishment of two universities. As a result of Texas' secession and the Civil War, funds were diverted to the needs of the state and weren't repaid until 1883.

The first year faculty composed of eight professors and enrollment was 221 students. The University occupied 40 acres near the state capitol. After the first year of World War I, enrollment increased to over 4,000 students and continued to increase to over 15,000 students after World War II. By the 1970's, the University enrolled over 30,000 students and consisted of 1,800 faculty members with eight colleges and four schools on the main university and four campus branches. The Sixtieth Texas Legislature officially changed the name of the main university to The University of Texas at Austin in 1967. By 1984, the

University had eight colleges and seven schools which offered more than 100 undergraduate degree programs and 170 graduate degree programs.

The U.T. System currently has nine universities in the following Texas cities: Arlington, Austin (main campus), Brownsville, Dallas, El Paso, McAllen, Odessa, San Antonio, and Tyler. The System also includes six health institutions with four medical, two dental and nine nursing schools. Assets in buildings and lands total over $22 billion. For the entire University System in the fall of 2002, there were more than 169,000 students and 87,000 faculty and staff (The University of Texas at Austin).

5.2 ORGANIZATION

The University of Texas (U.T.) System administration is based in Austin, Texas. Rules and regulations are established by the Board of Regents, a nine member committee appointed by the Texas Governor and approved by the Texas Senate. The Chancellor, the Chief Executive Officer of the U.T. System, reports to the Board of Regents and is ultimately responsible for all U.T. System operations.

The Chancellor is supported by Administrative Officers each responsible for a specific area. The areas include:

- Health Affairs
- Business Affairs

- Academic Affairs
- Administration
- General Counsel
- Governmental Relations
- Development and External Relations
- Federal Relations
- Educational System Alignment
- Community Relations
- Investment Management Company

The delivery of capital construction and renovation projects fall under the responsibility of the Office of Facilities Planning and Construction (OFPC). OFPC is headed by the Assistant Vice Chancellor for Facilities Planning and Construction who reports to the Chancellor through the Executive Vice Chancellor of Business Affairs.

Figure 5.1 presents an organization chart of the U.T. System.

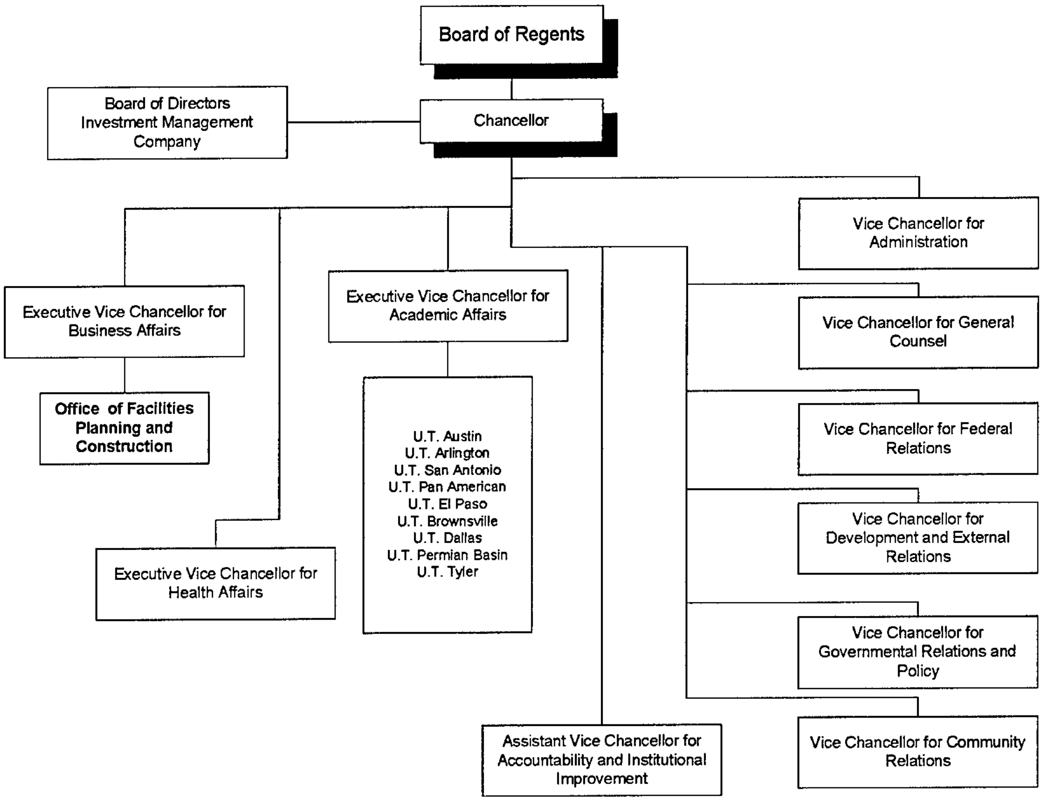

Board of Regents
Board of Directors Investment Management Company
Chancellor
Vice Chancellor for Administration
Executive Vice Chancellor for Business Affairs
Executive Vice Chancellor for Academic Affairs
Vice Chancellor for General Counsel
Office of Facilities Planning and Construction
U.T. Austin
U.T. Arlington
U.T. San Antonio
U.T. Pan American
U.T. El Paso
U.T. Brownsville
U.T. Dallas
U.T. Permian Basin
U.T. Tyler
Vice Chancellor for Federal Relations
Vice Chancellor for Development and External Relations
Executive Vice Chancellor for Health Affairs
Vice Chancellor for Governmental Relations and Policy
Assistant Vice Chancellor for Accountability and Institutional Improvement
Vice Chancellor for Community Relations

Figure 5.1. U.T. System Organization

5.3 OFFICE OF FINANCIAL PLANNING AND CONSTRUCTION

The Office of Financial Planning and Construction (OFPC) is responsible for the delivery of capital construction projects for the U.T. System. The Capital Improvement Program (CIP) is System's six-year projection of major repair/rehabilitation and new construction projects. Major repair/rehabilitation projects are defined as projects with costs exceeding $2 million. Major new construction projects are defined as projects with costs exceeding $1 million. CIP project funds are approved and appropriated by the Board of Regents.

5.3.1 CIP Process

The process for a CIP project begins with the need for major repair or construction from an institution within the U.T. System. OFPC provides the institution with a Project Planning Form to describe, justify, and identify funding sources. The planning form is then forwarded to the Offices of Academic Affairs and Health Affairs where it is further evaluated and reviewed. If refinements are made to the plan, OFPC will return the plan to the institution for final review and approval. The plan is then forwarded to the Executive Vice Chancellor of Business Affairs and the Chancellor and is proposed to the Board of Regents. For every project approved by the Board of Regents and adopted in the CIP, three percent of the anticipated total project cost is allowed for programming and design development. New construction projects that are architecturally significant are later presented to the Board of Regents for design approval and the request for appropriation of funds. New construction projects financed with tuition bonds are further reviewed and approved by the Texas Higher Education Coordinating Board. The OFPC staff continues to manage the project through completion, turnover and warranty work. The CIP program for 2002 through 2007 is valued at over $3.7 billion (The University of Texas at Austin).

5.3.2 Organization

The Assistant Vice Chancellor for Facilities Planning and Construction is responsible for the management and operations of OFPC. There are three divisions below the Assistant Vice Chancellor: Project Management Division, Administration Division, and Engineering Division. The Project Management Division is divided into five regions and is responsible for construction administration. The regions include Austin, Houston, North/West Texas, Galveston/Tyler, and South Texas. Figure 5.2 presents the organization of OFPC.

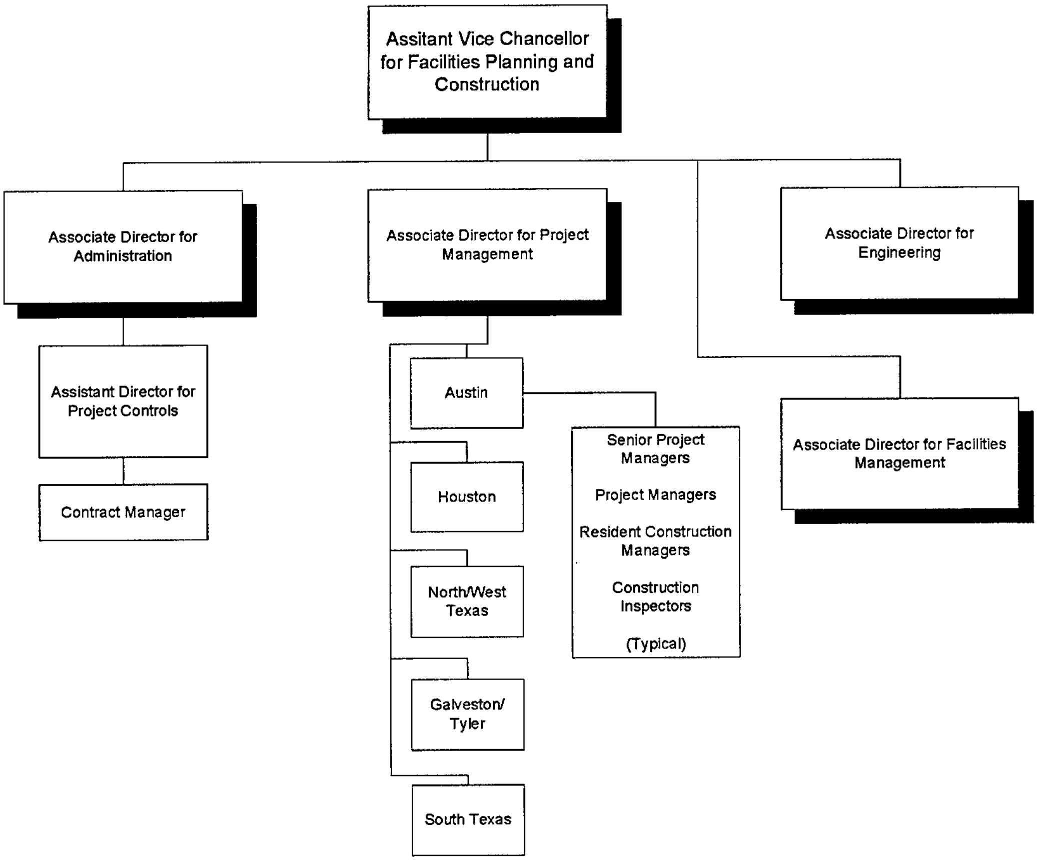

Assitant Vice Chancellor for Facilities Planning and Construction
Associate Director for Administration
Associate Director for Project Management
Associate Director for Engineering
Assistant Director for Project Controls
Contract Manager
Austin
Houston
North/West Texas
Galveston/ Tyler
South Texas
Senior Project Managers
Project Managers
Resident Construction Managers
Construction Inspectors
(Typical)
Associate Director for Facilities Management

Figure 5.2. OFPC Organization

Each region within the Project Management Division contains the following construction administration personnel. The responsibilities of each individual are described per OFPC's General Project Delivery Process Guidelines & Reference Manual.

Senior Project Manager – provides guidance and management of CIP projects to U.T. System institutions. Supports pre-project planning activities and design processes as managed by the Project Manager. Provides support to the Resident Construction Manager and Construction Inspector.

Project Manager – supports the Senior Project Manager with project coordination, pre-project planning activities, supervise contract administration activities and provides support to the Resident Construction Manager and Construction Inspector during construction activities. For competitive sealed proposal projects, the Project Manager handles all management during the design phase and turns over management to the Resident Construction Manager after the notice to proceed.

Resident Construction Manager – responsible for field construction administration: monitor construction schedule, project costs, and manage the change order process. Has the authority to authorize changes to contracts up to $100,000 for any event or accumulation of events. The Project Manager, when acting in the capacity of the Resident Construction Manager, has the same contracting authority for contract changes.

Construction Inspector – inspect contractor work for compliance with project plans and specifications, review and approve monthly contractor invoices, review project submittals, coordinate material testing and support in change order negotiations. Has the authority to authorize changes to contracts up to $5,000 per event.

Contract Manager – responsible for contract advertising, contractor selection process; monthly status reports; approves contractor certificates for payment; maintains current and historical records of contract and cost data for all projects; and coordinates insurance certificate requirements with contractors and insurance providers, construction agreements, bonds, and insurance prior to final execution. The contract manager is a member of the Administration Division and is the only individual within OFPC ultimately responsible for post-award construction contract actions.

5.4 ROICC TEAM EQUIVALENTS

The organization of OFPC's Project Management Division regions is analogous to the organization of NAVFAC's ROICC offices. ROICC Team equivalents were identified after discussions with the OFPC Assistant Vice Chancellor and review of OFPC's process guidelines.

- The *Resident Construction Manager* is the equivalent field representative to NAVFAC's *Project Manager*. Both individuals have the similar responsibilities within their respective organizations with only minor differences.

- The *Contract Manager* and *Project Manager* are the equivalent field representatives to NAVFAC's *Contact Specialist.* Per the Assistant Vice Chancellor, approximately ten percent of the Project Manager's time is devoted to pre-award construction duties equivalent to the duties of NAVFAC's Contract Specialist.
- The *Construction Inspector* is the equivalent field representative to NAVFAC's *Quality Assurance Representative.*

5.4.1 Qualifications

Table 5.1 presents U.T. System's required qualifications for the Resident Construction Manager, Contract Manager and Construction Inspector.

Table 5.1. U.T. System Qualifications for NAVFAC Equivalents

Description	**Position**			
	Resident Construction Manager	Contract Manager (Project Controls Group)	Project Manager	Construction Inspector
Education	BS degree in Architecture or Engineering	BS degree in Architecture or Engineering	BS degree in Architecture or Engineering	High school diploma or GED equivalent
Experience	>3 years experience in construction contract administration	>5 years project management experience	>3 years project management experience	>5 years experience in maintenance and construction
Licenses, Certificates or Registrations	None	None	Registration as Professional Engineer/Architect Required	None

5.5 SUMMARY

The University of Texas System is headquartered in Austin, Texas and is composed of nine universities and six health institutions. Total building and land assets of the U.T. System total over $22 billion. The Office of Facilities Planning and Construction is responsible for the delivery of capital construction projects for the U.T. System. OFPC reports to the Chancellor via the Executive Vice Chancellor of Business Affairs.

The Capital Improvement Program is the System's six-year projection of major repair/rehabilitation and new construction projects. Major repair/rehabilitation projects and construction projects are defined as projects with costs exceeding $2 million and $1 million, respectively.

OFPC's Resident Construction Manager and Construction Inspector were identified as the equivalents to NAVFAC's Project Manager and Quality Assurance Representative, respectively. OFPC's Contract Manager, Senior Project Manager, Project Manager, Resident Construction Manager and Construction Inspector collectively shared the pre and post-award responsibilities of NAVFAC's Contract Specialist.

CHAPTER 6: TEXAS A&M UNIVERSITY SYSTEM

This chapter provides an overview of the Texas A&M University System, discusses the role and organization of the Facilities Planning & Construction (FP&C) Department and identifies FP&C staff with equivalent positions and/or responsibilities to NAVFAC's ROICC Team.

6.1 HISTORY AND MISSION

Texas A&M University was established in 1876 as the Agricultural and Mechanical College of Texas and was the state's first public institution of higher education. In addition to the more than 231,000 acres allocated under an act of the Congress of the Republic of Texas in 1839, the 1862 Morrill Act donated an additional one million acres of state land for the development of one or more state universities. The Morrill Act stated "...the leading object shall be...to teach such branches of learning as are related to agriculture and the mechanic arts" (The Texas State Historical Association, p. 1). Since no public land was available for donation in Texas, the act allowed for Texas to receive and sell 180,000 acres of land in Colorado. Sales of the land totaled $156,000 and the state legislature approved a bill for the appropriation of $75,000 towards the establishment of the Texas Agricultural and Mechanical College in 1871. A site was located near Bryan, Texas where the local citizens donated an additional 2,000 acres of land.

The all-male military college opened in October 1876 with six faculty members and 106 students. Participation in the Corps of Cadets was mandatory. The University of Texas opened in Austin in 1893 and the two schools battled for minimal state funding. However, by 1910, the institution expanded its curriculum to eight degree programs due to the influence of a former governor residing as the school's president.

During World War I, the institution saw half of its graduates in military service with more than 1,200 commissioned officers. A graduate school was structured in 1924 and a doctorate program was established in 1936. Oil was discovered on school grounds in 1931 and the College negotiated to receive a third of the revenues. The revenues allowed for growth and increased enrollment during the difficult years of the Great Depression. During World War II, some 20,000 former students served in the war.

A bill was approved by the Texas Legislature in 1963 changing the name from the Agricultural and Mechanical College of Texas to Texas A&M University. "A&M" would signify the University's history and no longer represent "agricultural and mechanical". In that same year, women were officially admitted to the University. Student enrollment continued to increase and in 2000, Texas A&M University was the fourth largest university in the nation.

The Texas A&M University (TAMU) System consists of nine universities in the following Texas cities and towns: College Station, Galveston, Prairie View, Stephenville, Killeen, Commerce, Canyon, Kingsville, San Antonio, Corpus Christi, Laredo, and Texarkana. The TAMU System also includes eight state agencies and a health science center. The main campus in College Station is home to College of Veterinary Medicine, the University Health Science Center College of Medicine, and the George Bush Presidential Library.

6.2 ORGANIZATION

The TAMU System administration is based in College Station, Texas. Rules and regulations are established by the Board of Regents. The Chancellor, the Chief Executive Officer of TAMU System, reports to the Board of Regents and is ultimately responsible for all TAMU System operations.

The Chancellor is supported by the Deputy Chancellor and Administrative Officers in the following operational areas:

- Administration
- Academic and Student Affairs
- Agriculture
- Engineering
- Health Affairs
- Campus Branches - Presidents

- Business Services
- Research and Federal Relations
- Facilities Planning and Construction

The Facilities Planning and Construction Department is responsible for the delivery of capital construction and renovation projects. The FP&C Executive Director reports to the Chancellor via the Deputy Chancellor.

An organization chart of the TAMU System is presented in Figure 6.1.

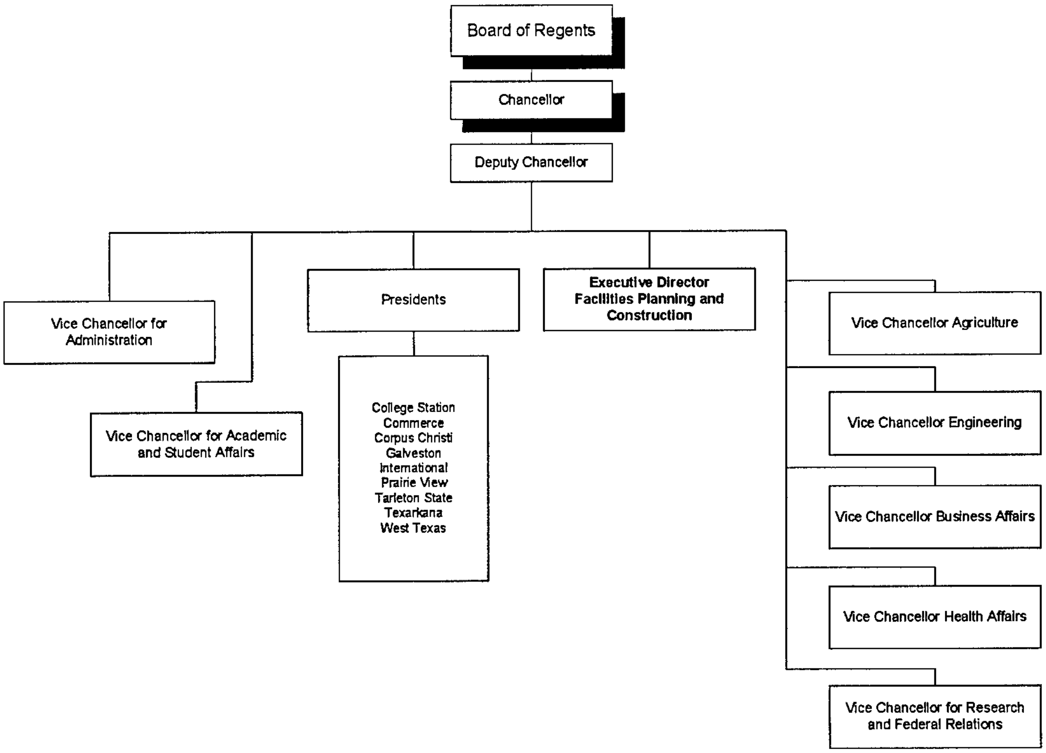

Board of Regents
Chancellor
Deputy Chancellor
Vice Chancellor for Administration
Vice Chancellor for Academic and Student Affairs
Presidents
College Station
Commerce
Corpus Christi
Galveston
International
Prairie View
Tarleton State
Texarkana
West Texas
Executive Director Facilities Planning and Construction
Vice Chancellor Agriculture
Vice Chancellor Engineering
Vice Chancellor Business Affairs
Vice Chancellor Health Affairs
Vice Chancellor for Research and Federal Relations

Figure 6.1. TAMU System Organization

6.3 FACILITIES PLANNING & CONSTRUCTION DEPARTMENT

The Facilities Planning and Construction (FP&C) Department is responsible for the delivery of capital construction projects for the TAMU System. Major renovation projects are defined as projects with costs exceeding $2 million. Major new construction projects are defined as projects with costs exceeding $1 million.

6.3.1 Capital Project Program

An institution within the TAMU System will develop a Program of Requirements (POR) starting the process for a capital project. With assistance from FP&C staff, a POR will provide a detailed scope, cost estimate, and projected schedule. During the POR development process, funding sources are identified and A/E firms are considered for the design. The POR is then presented to the Board of Regents for approval. Once approved, a project budget is established by the Board of Regents and a preliminary design with costs is developed by an A/E firm. If the A/E's estimated costs exceed the limit, additional funding must be identified by the institution *and* approval must be granted by the Board to increase the project budget *or* the A/E will redesign the project for costs to fall under the project cost limit. The process continues with team design reviews and approval is obtained from the Texas Higher Education Coordinating Board. The FP&C staff is then responsible for selecting the appropriate contracting vehicle and bids are solicited from contractors and the contract is awarded.

6.3.2 Organization

The FP&C Department is headed by the Executive Director who reports directly to the Deputy Chancellor. The Executive Director is supported by an Associate Executive Director and three divisions: Administration Division, Planning Division, and Construction Division. The FP&C main office is located in College Station and a branch office is located in Corpus Christi which oversees construction in south Texas: Corpus Christi, Kingsville and Laredo. The Construction Division is responsible for the construction administration of capital projects. Figure 6.2 presents the organization of the FP&C Department.

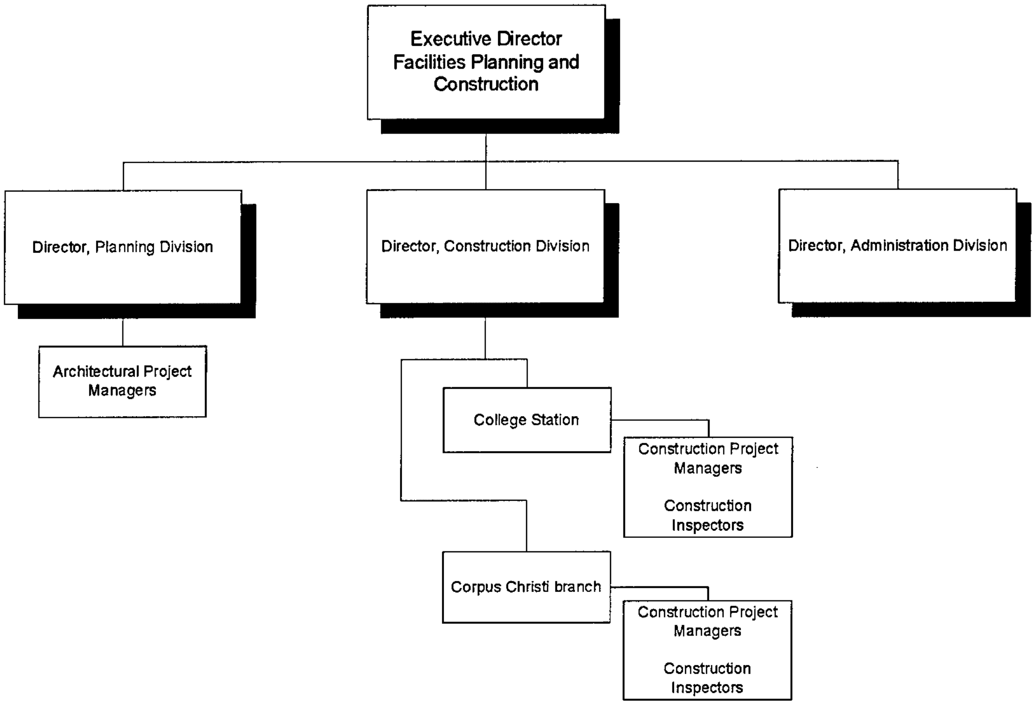

Executive Director Facilities Planning and Construction
Director, Planning Division
Director, Construction Division
Director, Administration Division
Architectural Project Managers
College Station
Construction Project Managers
Construction Inspectors
Corpus Christi branch
Construction Project Managers
Construction Inspectors

Figure 6.2. FP&C Organization

The Construction Division includes the following personnel. The responsibilities of each individual are described per the TAMU System position descriptions.

Director, Construction Division – supervises and manages the inspection, contract administration, and funding disbursement for all construction projects; maintains departmental staffing for current and projected workload and prepares the annual division operating budget; reviews, negotiates, and approves contract changes (up to $10,000); and approves contractor invoices.

Construction Project Manager – supervises and manages the construction contract. Attends preliminary and detailed design review meetings for new construction projects; conducts pre-construction conferences; conducts or attends regularly scheduled project meetings; reviews and makes contract changes (up to $5,000); coordinates and interprets project plans and specifications; and coordinates schedule and conducts final inspections.

Construction Inspector – inspects all material, equipment, and construction activities; maintains a daily journal of construction activities, decisions, and meetings; verifies and records additional work done; ensures material testing is accomplished in accordance with the contract plans and specifications; reviews contractor's cost proposal for additional work and approves contract changes (up to $2,000); monitors contractor's safety standards and methods; and ensures construction is performed in conformance to the project plans and specifications.

6.4 ROICC TEAM EQUIVALENTS

As found with the U.T. System's OFPC, the organization of FP&C's Construction Division is also analogous to the organization of NAVFAC's ROICC offices.

- The *Construction Project Manager* is the equivalent field representative to NAVFAC's *Project Manager*. Both individuals have the similar responsibilities within their respective organizations with only minor differences.

- The *Construction Inspector* is the equivalent field representative to NAVFAC's *Quality Assurance Representative*.

After discussions with FP&C's Executive Director, it was revealed that the pre-award procurement responsibilities equivalent to NAVFAC's *Contract Specialists* were accomplished by the *Architectural Project Managers* located in FP&C's Planning Division. Additionally, the post-award contract functions were shared by the following FP&C individuals: *Construction Inspector* (contract actions up to $2,000), *Project Construction Manager* (contract actions up $5,000), *Construction Division Director* (contract actions up $10,000) and *the Executive Director* (contract actions over $10,000).

6.4.1 Qualifications

Table 6.1 presents TAMU System's required qualifications for the Construction Project Manager, Construction Division Director, Architectural Project Manager and Construction Inspector. As discussed in the previous section, the pre and post-award responsibilities of NAVFAC's Contract Specialist are shared by the Executive Director, Planning Division Architectural Project Manager and Construction Division Director, Construction Project Manager and Construction Inspector.

Table 6.1. TAMU System Qualifications for NAVFAC Equivalents

Description	Position			
	Construction Project Manager	Construction Division Director	Architectural Project Manager (Planning Division)	Construction Inspector
Education	BS degree in Architecture or Engineering	BS in Construction Mgmt, Engineering or Architecture	Bachelor's Degree in Architecture or equivalent training and experience	Bachelor's Degree in Architecture, Engineering or Building Construction
Experience	>10 years in construction with experience as project manager	>15 years experience in managing large construction programs	>10 years in design and construction including >3 years as Project Manager	>10 years in construction related work
Licenses, Certificates or Registrations	Registration as Professional Engineer *Preferred*	Registration as Professional Engineer *Preferred*	Registration as Professional Architect in Texas Required	None

6.5 SUMMARY

The TAMU System is headquartered in College Station, Texas and is composed of nine universities throughout Texas including eight state agencies and a science health center. The Facilities Planning and Construction Department is responsible for the delivery of capital construction projects and reports to the Chancellor via the Deputy Chancellor.

The Capital Project Program is the System's program for major repair/rehabilitation and new construction projects. Major repair/rehabilitation projects and construction projects are defined as projects with costs exceeding $2 million and $1 million, respectively.

FP&C's Construction Project Manager and Construction Inspector were identified as the equivalents to NAVFAC's Project Manager and Quality Assurance Representative, respectively. FP&C's Executive Director, Planning

Division Architectural Project Manager, Construction Division Director, Construction Manager and Construction Inspector collectively shared the pre and post-award responsibilities of NAVFAC's Contract Specialist.

CHAPTER 7: THE DUPONT COMPANY

This chapter provides an overview of the DuPont Company, discusses the role and organization of the Facilities Construction and Support (FC&S) Department, and identifies FC&S staff with equivalent positions and/or responsibilities to NAVFAC's ROICC Team.

7.1 HISTORY AND MISSION

The DuPont Company was established as a black powder explosives company in 1802 by E.I. du Pont. The company quickly established itself as a quality powder manufacturer and grew rapidly. Three DuPont cousins purchased the company in 1902 to avoid the selling of the company to a competitor. In 1903, DuPont established the Experimental Station, an independent research laboratory pioneering industrial research. DuPont's commitment to research would lead to improvements in nitrocellulose-based synthetics and eventually a manufacturer of chemicals and materials.

World War I transformed the company into an industry giant as it supplied the Allies with 40 percent of the total explosives requested. Furthermore, Germany was the U.S.'s largest supplier of dyes prior to the war. The shortage of dye affected money printing and DuPont tackled the task of manufacturing synthetic dyes with great success.

With the acquisitions of smaller companies, DuPont added six new industrial departments by the 1930's. Rayon and cellophane are examples of products developed by the new departments. Cellophane was marketed with apparel and packaging and was very successful with the American consumers. Polymer science and technology also flourished and DuPont was responsible for the discovery of neoprene (synthetic rubber) and nylon. In 1935, DuPont penned the slogan, "Better things for better living through chemistry".

The U.S. government again relied on DuPont in World War II to substitute plastics for heavier materials. In 1938, Teflon was discovered and used in many military applications. The government also asked DuPont to design, construct, and operate a plant to produce plutonium. A plutonium device was detonated in the New Mexico desert in July 1945 and several weeks later the war ended with the dropping of two atomic bombs in Japan. DuPont left the nuclear business and wasn't involved again until the Cold War.

Through the late century, DuPont's continued research commitment developed further innovative products including: Lycra spandex fiber, Dacron polyester fiber, Kevlar brand fiber, Nomex fire-retardant material, Corian solid surface, Tyvek protective material, and Cordura textile fibers.

DuPont currently has more than 79,000 employees in 70 countries worldwide. DuPont owns 135 manufacturing/processing facilities and 40 research/development/customer service labs. In 2002, revenues totaled over $24 billion (E. I. du Pont du Nemours and Company).

7.2 ORGANIZATION

Repeated in corporate literature and websites, "DuPont is a science company" and the company is structured for market growth through core business areas. DuPont was recently ranked as the 70th largest U.S. industrial/service corporation by Fortune 500 (E. I. du Pont du Nemours and Company). DuPont's organization is complex and a thorough explanation would require a number of pages and figures. This section will provide a general overview of DuPont's organization and will identify the department responsible for construction administration of its manufacturing and process facilities, the Facilities Construction and Support Department.

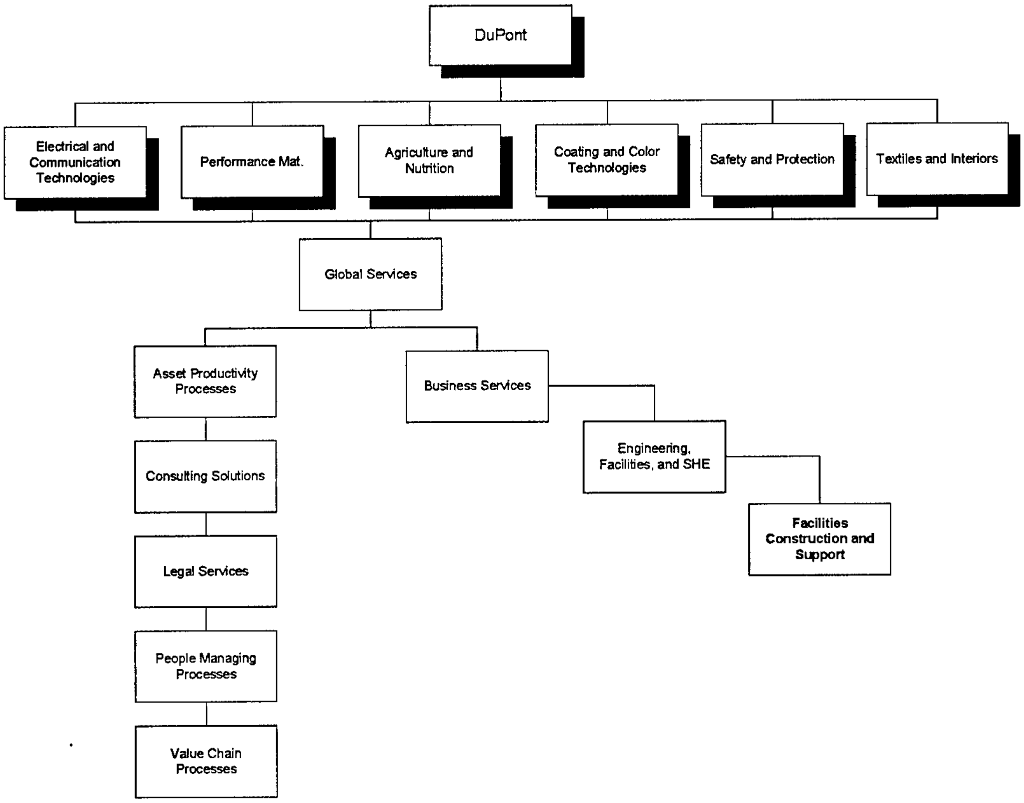
DuPont is headquartered in Wilmington, Delaware. Six business areas report to the corporate office:

- Electronic and Communication Technologies
- Performance Materials
- Coatings and Color Technologies
- Safety and Protection
- Agriculture and Nutrition
- Textiles and Interiors

The business areas utilize the Global Services group for business, legal, and consulting services. Global Services is composed of six areas: Asset Productivity Processes, Consulting Solutions, Value Chain Processes, Business

Services, Legal Services, and People Managing Processes. Under the Business Services group is DuPont Capital Asset Productivity (DuCap). DuCap is responsible for all capital project planning and execution.

The Facilities Construction and Support Department is a subdivision of DuCap and is responsible for the construction administration of DuPont's *manufacturing/process facilities* construction projects. A DuPont Company organization chart is presented in Figure 7.1.



DuPont
Electrical and Communication Technologies
Performance Mat.
Agriculture and Nutrition
Coating and Color Technologies
Safety and Protection
Textiles and Interiors
Global Services
Asset Productivity Processes
Consulting Solutions
Legal Services
People Managing Processes
Value Chain Processes
Business Services
Engineering, Facilities, and SHE
Facilities Construction and Support

Figure 7.1. DuPont Company Organization Chart

7.3 FACILITIES CONSTRUCTION AND SUPPORT DEPARTMENT

The Facilities Construction and Support (FC&S) Department is made up of engineers, consultants, safety professionals, and business personnel consisting of approximately 70 DuPont employees (also known as DuPonters) and 50 contracted support professionals from Washington Group International (WGI). The FC&S group provides support to DuPont businesses in construction and support contracting, project front-end loading (pre-project planning), craft technology, infrastructure maintenance, fleet management, and labor relations. This section will focus on the construction administration functions of the DuPonters within the FC&S Department.

7.3.1 Organization

A FC&S construction management team may be lead by one or all of the following individuals depending on the size and complexity of the project. The responsibilities of each individual are described per Dupont FC&S position descriptions.

Resident Manager – 15 plus years of construction experience, manages multiple projects totaling up to $150 million, may be assigned to a large, single and foreign project up to $100 million, and reports to a Regional Construction Manager.

Project Engineer – 10 to 15 years of construction experience, manages multiple projects up to $100 million, and reports to the Resident Manager.

FC&S Engineer – 5 to 10 years of construction experience, manages multiple projects up to $30 million, and reports to the Resident Manager.

The Resident Manager, Project Engineer, and FC&S Engineer are essentially responsible for the same construction administration duties – project scheduling, cost, safety, productivity, and quality.

The team of construction managers relies on the following FC&S team members for support.

Business Services Consultant – provides financial, administrative, and internal controls support to the Project Engineer at the project site. Duties include the development of the site operating budget, reporting monthly expenditures, contract administration, reviewing/approving site contractor progress payments, and training and assistance to the Construction Management Contractor. Depending on the level of experience, a Business Service Consultant is classified as an Analyst or Specialist. Business Services Consultants have regional responsibility and frequent the project site routinely or on an as needed basis.

FC&S Craft Consultant – provides technical expertise in design, safety, front-end loading, contracting, field support, quality, standards and technology. The Craft Consultants are classified into three disciplinary areas: Electrical/Instrumentation, Pipe/Mechanical, and Civil/Structural. The Craft Consultant plays a major role in the contractor's quality and may establish an inspection program. Craft Consultants have regional responsibility and frequent the project site routinely or on an as needed basis.

Safety Consultant – responsible for auditing site safety policies established by the Construction Management Contractor and construction contractor. Assists in the development of site safety skills and safety programs.

DuPont contracts for construction administration support with an Engineering and Procurement including Construction Management (EPCM) Contractor. The EPCM Contractor is utilized by DuPont on a majority of capital construction projects and the EPCM staff work under the direction of the FC&S Resident Manager for construction administration duties including costs, scheduling, safety, quality assurance, contractor change requests, and contractor invoices.

Figure 7.2 presents the organization of the FC&S construction administration team.

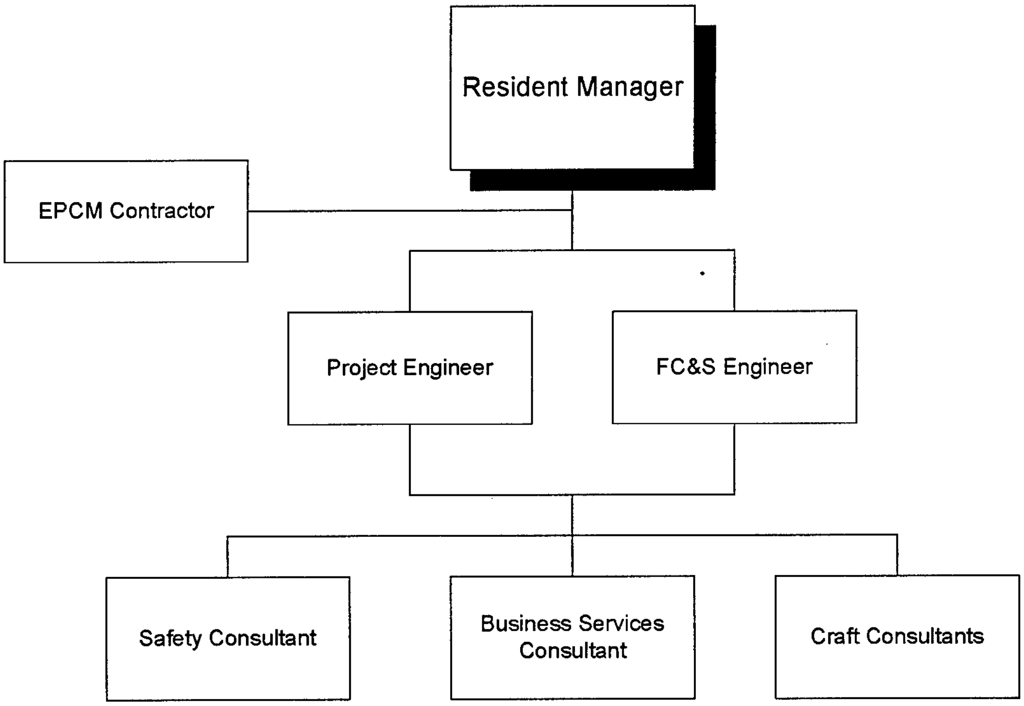


Figure 7.2. FC&S Organization Chart

7.4 ROICC TEAM EQUIVALENTS

Construction administration of the FC&S Department is focused on the construction of manufacturing/process facilities. FC&S staff does not manage conventional construction projects (i.e. commercial buildings and housing projects). The author interviewed a senior DuPont Resident Manager and reviewed FC&S documents detailing the project processes and staff duties. With input from the DuPont Resident Manager, the following FC&S individuals had similar construction administration responsibilities as the ROICC Team.

- The *Resident Manager*, *Project Engineer*, and *FC&S Engineer* are equivalent to NAVFAC's *Project Manager.*
- A *Business Service Consultant* is equivalent to NAVFAC's *Contract Specialist.*

No individuals within the FC&S Department have similar construction administration responsibilities as NAVFAC's *Quality Assurance Representative.* The FC&S Craft Consultants supervise the contractor's quality and may establish an inspection program. However, the responsibilities of NAVFAC's Quality Assurance Representative are found with individuals within the EPCM Contractor contracted by DuPont for construction administration.

7.4.1 Qualifications

Table 7.1 presents DuPont's required qualifications for the Resident Manger/Project Engineer/FC&S Engineer, Business Service Consultant and Quality Craft Consultant.

Table 7.1. DuPont Qualifications for NAVFAC Equivalents

Description	Position		
	Resident Manager (1), Project Engineer (2) and FC&S Engineer (3)	Business Services Specialist (Bus. Controls and Solutions)	Quality Craft Consultant
Education	BS or MS degree	BS degree in administrative, industrial, financial mgmt, business administration	See Experience
Experience	>15 years (1)/10 - 15 years (2) 5 - 10 years (3) of construction experience	2 - 4 years experience	15+ years experience/performance of craft functions, leading others, study and observation
Licenses, Certificates or Registrations	None	None	None

7.5 SUMMARY

DuPont is a science company and owns 135 manufacturing/processing facilities and 40 research labs worldwide. DuPont is structured for market growth through six core business areas: Electronic and Communication Technologies, Performance Materials, Coatings and Color Technologies, Safety and Protection, Agriculture and Nutrition and Textiles and Interiors.

The FC&S Department is responsible for the construction administration of DuPont's *manufacturing/process facility* construction projects and is composed of approximately 70 DuPonters.

The Resident Manager, Project Engineer, and FC&S Engineer were identified as FC&S individuals with equivalent positions as NAVFAC's Project

Manager. The Business Service Consultant was identified as the equivalent position of NAVFAC's Contract Specialist. The responsibilities of NAVFAC's Quality Assurance Representative were not found within the FC&S Department but with individuals belonging to the EPCM Contractor. The EPCM Contractor is contracted by DuPont to support the FC&S Department with construction administration of manufacturing/process facility projects.

CHAPTER 8: DATA PRESENTATION

This chapter presents essential assumptions required from each owner organization for successful apples to apples comparison of workload responsibility between the ROICC Team and industry equivalents. Subsequently, staff quantities and construction WIP data is presented from NAVFAC, The U.T. System, TAMU System, and the DuPont Company during the study period.

8.1 NAVFAC

NAVFAC Type I construction WIP dollars and staffing numbers were extracted from eight spreadsheets consisting of accumulated NFOR data. Each spreadsheet represents NFOR data from a specific reporting period. The following reporting periods were reviewed for this study.

- FY 2000: March 2000, June 2000, and September 2000
- FY 2001: November 2000, January 2001, and July 2001
- FY 2002: January 2001 and July 2001

Refer to Appendix A for NFOR spreadsheets.

61 of NAVFAC's 90 ROICC offices are located within the continental U.S. (CONUS). Therefore, data has been categorized into two groups: "NAVFAC" and "NAVFAC CONUS". The "NAVFAC" group includes data from all 90 ROICC offices whereas the "NAVFAC CONUS" group only consists of data

from CONUS ROICC offices. ROICC offices located outside the continental U.S. are referred to as OCONUS ROICC offices.

8.1.1 Assumptions

- The Project Manager and AROICC have identical construction administration functions within the ROICC office. Therefore, the quantity of NAVFAC Project Managers will include the cumulative total of AROICC's (NFOR code: "Military") and civilian Project Managers.
- The NFOR spreadsheets in Appendix A report total quantities for each position. The reports do not provide a breakdown of rank for CEC officers or grade level for civilian positions. A 15% reduction was applied to the annual "Military" quantities. This reduction removed senior CEC officers, more specifically ROICC's, from the NAVFAC totals to obtain an accurate estimate of AROICC's.
- The annual quantities for "K" personnel, provided in Appendix A, were reduced by 75% to account for various the contract types administered by Contract Specialists. 25% of total Contract Specialists was used to obtain an approximate quantity of Contract Specialists responsible for Type I construction contracts. This estimate was derived after consulting with a senior NAVFAC REICC.

8.1.2 Data

Table 8.1 presents "NAVFAC" Type I construction WIP and staffing data during FY 2000 through FY 2002. "Military" is a NFOR code and refers to Civil Engineer Corps Officers (CEC) assigned to ROICC offices. NFOR position codes "PM", "K", and "QA" represent civilian Project Managers, Contract Specialists and Quality Assurance Representatives, respectively.

Table 8.1. NAVFAC Data for FY 2000 through FY 2002

		Staffing				
FY	WIP (Type I, $M)	Military	PM	K	QA	Total
00	3068.333	203	271	84	432	990
01	3063.333	202	249	89	440	980
02	3082.500	216	243	98	415	970
Mean	**3071.389**	**207**	**254**	**90**	**429**	**980**
Std Dev	**9.942**	**8**	**15**	**7**	**13**	**10**

For the study period, the construction WIP mean for "NAVFAC" was approximately $3,071 million with a standard deviation of approximately $10 million. The mean total staff quantity observed was 980. The mean quantity of CEC officers, Project Managers, Contract Specialists and Quality Assurance Representatives was 207, 254, 90 and 429, respectively.

Table 8.2 presents "NAVFAC CONUS" construction WIP and staffing during FY 2000 through FY 2002.

Table 8.2. NAVFAC CONUS Data for FY 2000 through FY 2002

		Staffing				
FY	WIP (Type I, $M)	Military	PM	K	QA	Total
00	2294.627	154	206	62	298	720
01	2260.893	152	186	63	306	707
02	2251.220	162	176	69	279	686
Mean	**2268.913**	**156**	**189**	**65**	**294**	**704**
Std Dev	**22.788**	**5**	**15**	**4**	**14**	**17**

For the study period, the "NAVFAC CONUS" WIP mean was approximately $2,269 million with a standard deviation of approximately $23 million. The mean total staff quantity observed was 740. The mean quantity of CEC officers, Project Managers, Contract Specialists and Quality Assurance Representatives was 156, 189, 65 and 294, respectively.

In comparing triennial numbers between "NAVFAC" and "NAVFAC CONUS", it was noted that OCONUS ROICC offices accounted for approximately $800 million (26%) of NAVFAC's $3,071 million Type I construction WIP. Taking into account the assumption of Type I Contract Specialists as previously stated, OCONUS ROICC offices accounted for approximately 28% of NAVFAC's Project Managers, Contract Specialists, and Quality Assurance Representatives.

8.2 THE U.T. SYSTEM

The Assistant Vice Chancellor for Facilities Planning and Construction provided two OFPC spreadsheets for review: (1) an department analysis spreadsheet from FY 98 through FY 03 containing the history of staffing (based on budgeted and filled full time equivalents), budget (projected and actual), and activity (total dollars processed, active projects, and Capital Improvement Plan projects) and (2) a budget/staffing history spreadsheet from FY 98 through FY 03 detailing the number of OFPC positions budgeted, filled, and contracted. Additionally, the Vice Chancellor allowed the author to review OFPC's General Project Delivery Process Guidelines and Reference Manual. Refer to Appendix C for OFPC information and data.

8.2.1 Assumptions

- The Assistant Vice Chancellor of Facilities and Construction recommended reducing OFPC's total processed dollars by 30% to achieve an accurate estimate of construction WIP dollars.
- With respect to construction contracts only, the pre and post-award contractual duties (duties similar to NAVFAC's Contract Specialist) of the Senior Project Manager, Resident Construction Manager and Construction Inspector were minor and will be ignored.

- Annual staff quantities for Project Managers will be reduced to 10% and will be included with the annual quantity for the Contract Manager. The annual quantity of Project Managers during the study period was 20 and was assumed constant; therefore, a total of three Contract Managers worked for OFPC during the study period.

8.2.2 Data

Table 8.3 presents OFPC construction WIP and staffing data for FY 2000 through FY 2002. "RCM" and "CI" represent the Resident Construction Managers and Construction Inspectors, respectively. "CM" represents the collective total of the Contract Manger and Project Managers.

Table 8.3. U.T. System Data for FY 2000 through FY 2002

FY	Dollars Processed ($M)	Construction WIP ($M)	Staffing			
			RCM	CM	CI	Total
00	290.000	203.000	11	3	18	32
01	320.000	224.000	11	3	18	32
02	360.000	252.000	14	3	20	37
Mean	**323.333**	**226.333**	**12**	**3**	**19**	**32**
Std Dev	**35.119**	**24.583**	**2**	**0**	**1**	**3**

For the study period, the construction WIP mean was approximately $226 million with a standard deviation of $25 million. The mean total staff quantity observed was 32. The mean quantity of Resident Construction Managers, Contract Managers and Construction Inspectors was 12, 3 and 19, respectively.

8.3 TAMU SYSTEM

The Executive Director of the Department of FP&C offered numerous documents detailing contract processes and staff position descriptions for review. The handouts consisted of a FP&C overview, organization charts, Capital Project Planning information, construction expenditures from FY 98 through FY 2002, and department position descriptions/qualifications. Refer to Appendix D for FP&C information and data.

8.3.1 Assumptions

- The Executive Director of FP&C Department recommended reducing the department's total processed dollars by 25% for an accurate estimate of construction WIP dollars.
- With respect to construction contracts only, the pre and post-award contractual duties (duties similar to NAVFAC's Contract Specialist) of the Construction Project Manager and Construction Inspector were minor and will be ignored.
- Staff quantities for all positions were constant during the study period.

8.3.2 Data

Table 8.4 presents FP&C Department construction WIP data and staffing data for FY 2000 through FY 2002. "CPM" and "CI" represent Construction Project Managers and Construction Inspectors, respectively. "PM" represents the collective total of Planning Division Project Managers, Construction Division Director and the Executive Director.

Table 8.4. TAMU System Data for FY 2000 through FY 2002

			Staffing			
FY	Dollars Processed ($M)	Construction WIP ($M)	CPM	PM	CI	Total
00	118.000	88.500	4	4	11	19
01	94.000	70.500	4	4	11	19
02	110.000	82.500	4	4	11	19
Mean	**107.333**	**80.500**				
Std Dev	**12.220**	**9.165**				

For the period study period, the construction WIP mean was approximately $81 million with a standard deviation of approximately $9 million. FP&C staff quantities were assumed to be constant during the study period.

8.4 THE DUPONT COMPANY

A senior DuPont FC&S Construction Manager was interviewed over the phone and provided the following documents for review: organizational structure, yearly construction volume, Production Design Basis manual, constructability checklists, FC&S scope of work checklists, and department position descriptions/qualifications. Refer to Appendix E for FC&S information and data.

8.4.1 Assumptions

- The Construction Manager suggested reducing the project volume dollars by 39% to achieve an accurate estimate of construction WIP dollars. 61% of the total project volume was derived from the Construction Manager's experience with DuPont projects and their typical cost breakdown: 8% for indirect field costs, 27% for labor, and 26% for field material. Additionally, annual construction volume was provided in calendar years and not fiscal years.
- Costs of foreign projects make up a minute percentage of the annual project volume and will be ignored.
- Annual project volume numbers were reported in calendar years; therefore, assume the data is an accurate estimate for fiscal year numbers.
- Staffing quantities for all positions were constant during the study period.

8.4.2 Data

Table 8.5 presents FC&S Department construction WIP data and staffing data for calendar years 2000 through 2002. "RM", "BSC", and "CC" represent the Resident Managers, Business Service Consultants and Craft Consultants, respectively.

Table 8.5. DuPont Data for FY 2000 through FY 2002

Year	Project Volume ($M)	Construction WIP ($M)	Staffing			
			CM	BSS	QCC	Total
00	1900.000	1159.000	41	21	8	70
01	1500.000	915.000	41	21	8	70
02	1400.000	854.000	41	21	8	70
Mean	**1600.000**	**976.000**				
Std Dev	**264.575**	**161.391**				

For the study period, the construction WIP mean was approximately $976 million with a standard deviation of $161 million. As discussed in Chapter 8, FC&S Department staff quantities were assumed constant during the study period.

8.5 SUMMARY

NAVFAC construction WIP and staffing data was presented during FY 2000 and FY 2002. NAVFAC data was categorized into two groups: "NAVFAC" and "NAVFAC CONUS". The "NAVFAC" group includes data from all 90 ROICC offices whereas the "NAVFAC CONUS" group only consists of data from the 61 CONUS ROICC offices.

The U.T. System's total processed dollars and staffing data was presented during the study period. Total processed dollars were reduced by 30% to achieve an approximate estimate comparable to NAVFAC's Type I WIP construction.

TAMU System's total processed dollars and staffing data was presented during the study period. Total processed dollars were reduced by 25% to achieve an approximate estimate comparable to NAVFAC's Type I WIP construction.

The DuPont Company's total project construction volume and staffing data was presented during the study period. Total processed dollars were reduced by 39% to achieve an approximate estimate comparable to NAVFAC's Type I WIP construction.

Chapter Nine will compare workload responsibility for each ROICC Team individual and compare to equivalent positions The U.T. System, TAMU System and The DuPont Company. Assumptions will be necessary for successful apples to apples comparison between the owner organizations and will be presented in Chapter Nine.

CHAPTER 9: QUANTITATIVE COMPARISON

This chapter presents an analysis and comparison of workload responsibility between NAVFAC and the industry owner organizations. The analysis is presented and organized consistently with NAVFAC's ROICC Team: Project Manager, Contract Specialist, and Quality Assurance Representative.

9.1 CONSTRUCTION WORKLOAD RESPONSIBILITY

As discussed in Chapter Three, workload responsibility is defined as:

Annual Construction Work-in-Place ($) / Quantity of Personnel

An analysis and comparison of construction workload responsibility is now presented for NAVFAC's Project Manager, Contract Specialist, and Quality Assurance Representative.

9.2 PROJECT MANAGER

Figure 9.1 presents the annual average workload responsibility for NAVFAC's Project Manager and industry equivalents (identified in Chapters Five, Six and Seven) during the study period.

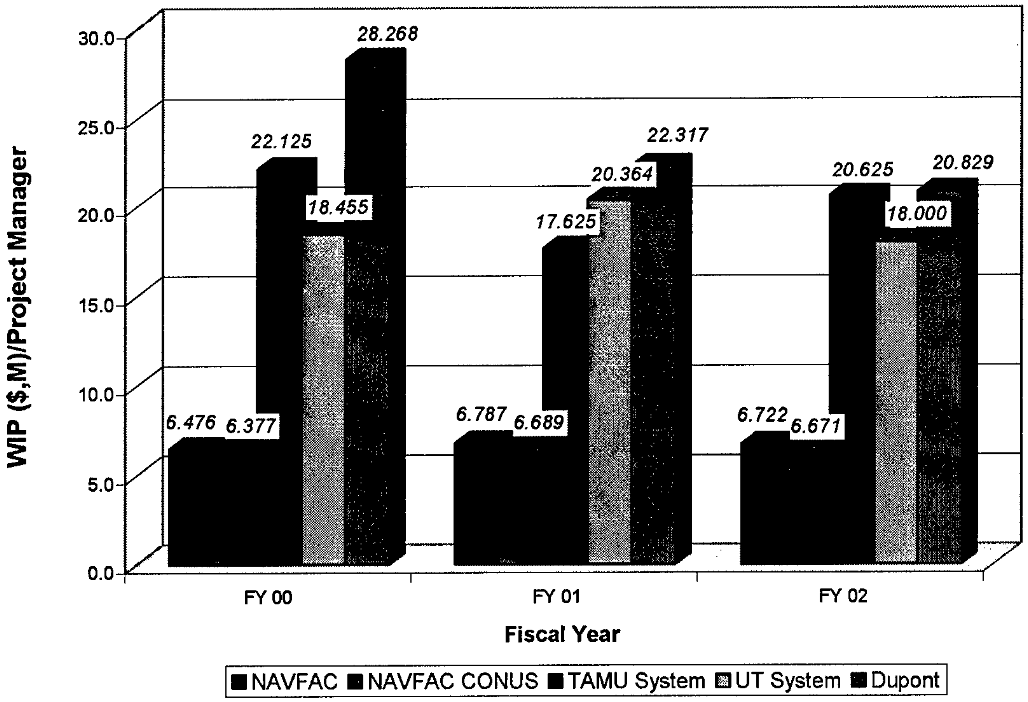


Figure 9.1. Mean Workload Responsibility for NAVFAC Project Manager and Industry Equivalents

The "NAVFAC" mean and standard deviation for the study period is approximately $6.7 million and $0.2 million, respectively. The "NAVFAC CONUS" mean and standard deviation is approximately $6.6 million and $0.2 million, respectively. The OCONUS ROICC offices exhibited a relatively small influence to the "NAVFAC" totals.

The workload responsibility mean and standard deviation for the TAMU System equivalent was approximately $16.1 million and $1.8 million, respectively.

The workload responsibility mean and standard deviation for The U.T. System equivalent was approximately $18.9 million and $1.3 million, respectively.

The workload responsibility mean and standard deviation for The DuPont Company equivalent was approximately $27.0 million and $4.5 million, respectively.

NAVFAC Project Managers had the lowest level of workload responsibility among all owner organizations. The equivalents from the industry organizations were clustered near the $20 million level. NAVFAC's level of responsibility can be partially attributed to the rotation of CEC officers in AROICC positions. CEC officers have opportunities to transfer to other CEC duties in facilities management and the Naval Construction Force (Seabees), to name a few, during their naval careers. An AROICC position is not permanent and the average tour is approximately two years. Also, it is not uncommon for junior CEC officers with little or no construction experience to manage high value construction projects.

9.3 CONTRACT SPECIALIST

Figure 9.2 presents the annual average workload responsibility for NAVFAC's Contract Specialist and industry equivalents as identified in Chapters Five, Six and Seven.

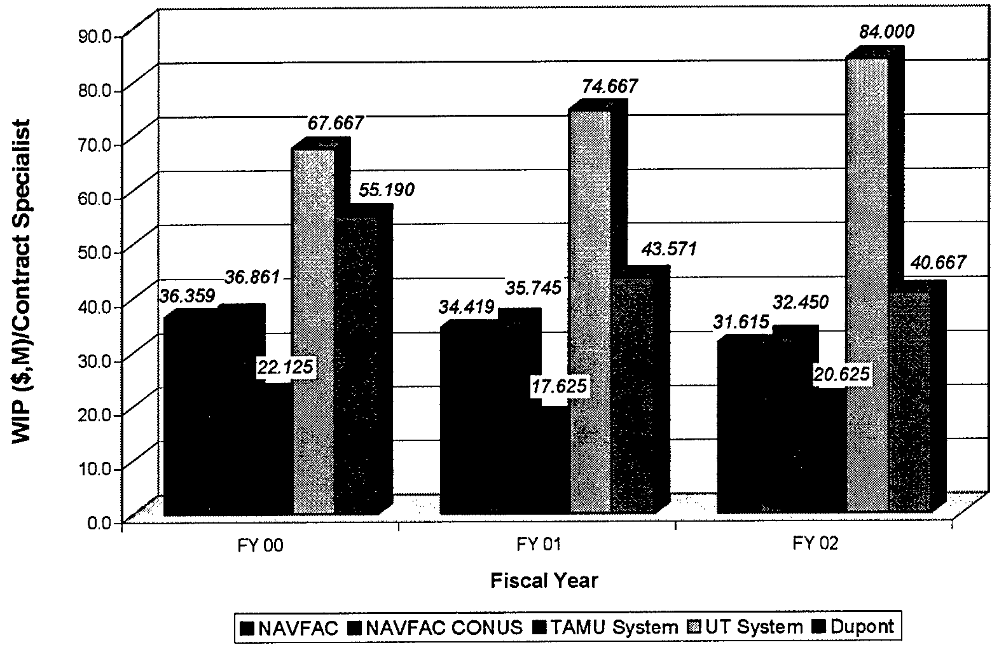


Figure 9.2. Mean Workload Responsibility for NAVFAC Contract Specialist and Industry Equivalents

The "NAVFAC" mean and standard deviation for the study period is approximately $34.1 million and $2.4 million, respectively. The "NAVFAC CONUS" mean and standard deviation is approximately $35.0 million and $2.3 million, respectively.

The workload responsibility mean and standard deviation for the TAMU System equivalent was approximately \$20.1 million and \$2.3 million, respectively.

The workload responsibility mean and standard deviation for The U.T. System equivalent was approximately \$75.4 million and \$8.2 million, respectively.

The workload responsibility mean and standard deviation for The DuPont Company equivalent was approximately \$45.0 million and \$7.4 million, respectively.

The U.T. System Contract Manager had the highest level of responsibility with a mean of \$75.4 million during the study period. NAVFAC, TAMU System, and The DuPont Company were consistent and clustered near the \$35 million level. The U.T. System places a high level of accountability on its Contract Manager to streamline contract processes and is ultimately responsible for all post-award contract actions. Although the authority to authorize contract changes is delegated to the Resident Construction Manager and the Construction Inspector, a final approval and document signature is required from the Contract Manager for all contract changes. As stated in Chapter Five, pre-award construction duties were shared by the Contract Manager and Project Managers and the "Contract Manager" totals presented in Chapter Eight, Section 8.2.1, included the annual sum of the Contract Manager and Project Managers.

A cursory review of position qualifications in Table 9.1 shows consistency among NAVFAC, The U.T. System, and DuPont. TAMU System has the greatest requirements for its NAVFAC equivalent. However, the pre and post-award contract duties of NAVFAC's Contract Specialists are shared by TAMU's Project Manager, Construction Inspector, Project Construction, Construction Division Director and the Executive Director. TAMU's Project Manager is also responsible for technical and design reviews and coordination with A/E firms.

Table 9.1. Qualifications for NAVFAC Contract Specialist and Industry Equivalents

Description	**Organization**			
	NAVFAC	UT System Equivalent	TAMU System Equivalent	Dupont Equivalent
Position	Contract Specialist (Grade GS-9)	Contract Manager (Project Controls Group)	Construction Division Director	Business Services Specialist (Bus. Controls and Solutions)
Education	Bachelor's degree w/ a major in any field or at least 24 semester hours in any combination of specific fields*	BS degree in Architecture or Engineering	BS in Construction Mgmt, Engineering or Architecture	BS degree in administrative, industrial, financial mgmt, business administration
Experience	1 year equivalent experience as GS-5 and 1 year as GS-7	>5 years project management experience	>15 years experience in managing large construction programs	2 - 4 years experience
Licenses, Certificates or Registrations	None	None	Registration as Professional Engineer *Preferred*	None

9.4 QUALITY ASSURANCE REPRESENTATIVE

Figure 9.3 presents the annual average workload responsibility for NAVFAC's Quality Assurance Representative and industry equivalents as identified in Chapters Five, Six and Seven.

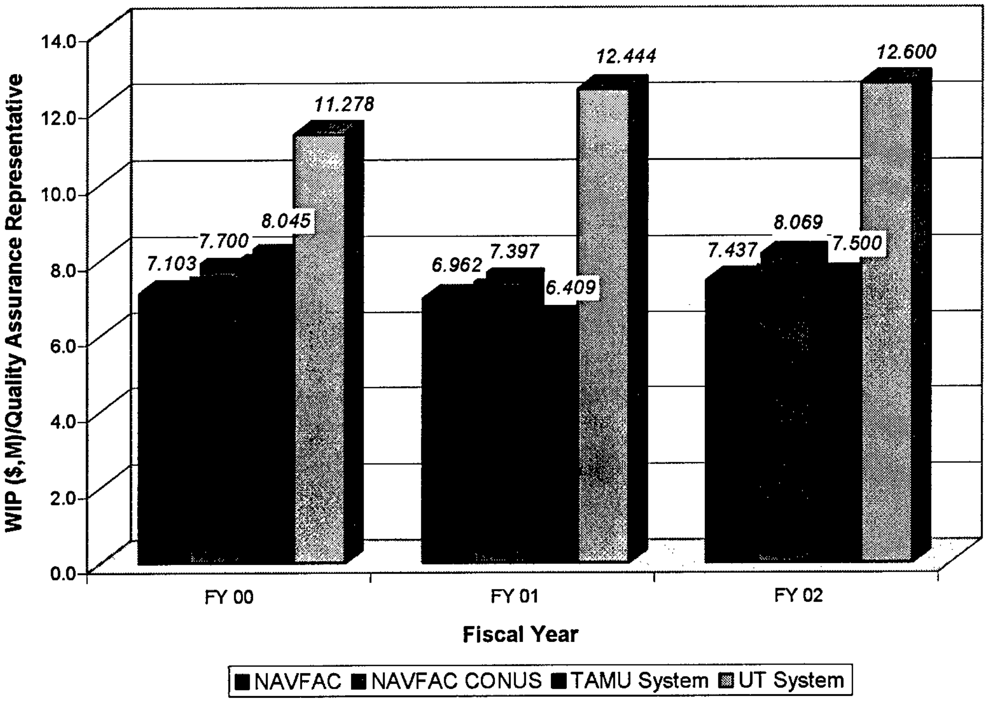


Figure 9.3. Mean Workload Responsibility for NAVFAC Quality Assurance Representative and Industry Equivalents

The "NAVFAC" mean and standard deviation for the study period is approximately $7.2 million and $0.2 million, respectively. The "NAVFAC CONUS" mean and standard deviation is approximately $7.7 million and $0.3 million, respectively.

The workload responsibility mean and standard deviation for the TAMU System equivalent was approximately $7.3 million and $0.8 million, respectively.

The workload responsibility mean and standard deviation for The U.T. System equivalent was approximately $12.1 million and $0.7 million, respectively.

As previously stated in Chapter Seven, the DuPont FC&S Department does not have an equivalent to NAVFAC's Quality Assurance Representative. However, a review of Table 8.5 shows an average responsibility of $112 million for DuPont's Quality Craft Consultants during the study period.

The U.T. System Construction Inspector had the highest level of responsibility averaging $12 million during the study period. NAVFAC, TAMU System, and The DuPont Company were consistently clustered around $7.5 million.

A cursory review of Table 9.2 reveals that NAVFAC and the U.T. System have similar qualifications for mid-grade Quality Assurance Representatives. TAMU System had the highest level of requirements including a Bachelor's Degree and more than ten years of construction experience.

Table 9.2. Qualifications for NAVFAC Quality Assurance Representative and Industry Equivalents

Description	Organization		
	NAVFAC	UT System Equivalent	TAMU System Equivalent
Position	CONREP (Grade GS-4)	Construction Inspector	Construction Inspector
Education	High school diploma or equivalent and 2 years of courses above high school related to the occupation*	High school diploma or GED equivalent	Bachelor's Degree in Architecture, Engineering or Building Construction
Experience	>6 months experience as CONREP	>5 years experience in maintenance and construction	>10 years in construction related work
Licenses, Certificates or Registrations	None	None	None

9.5 TOTAL STAFF

"Total Staff" is defined as the cumulative total of NAVFAC Project Managers, Contract Specialists, and Quality Assurance Representatives. Therefore, annual average workload responsibility for each individual is calculated by dividing the annual construction WIP dollars by the "Total Staff". The same method is applied to the industry organizations to calculate an average workload responsibility per individual. Figure 9.4 presents construction workload responsibility per individual.

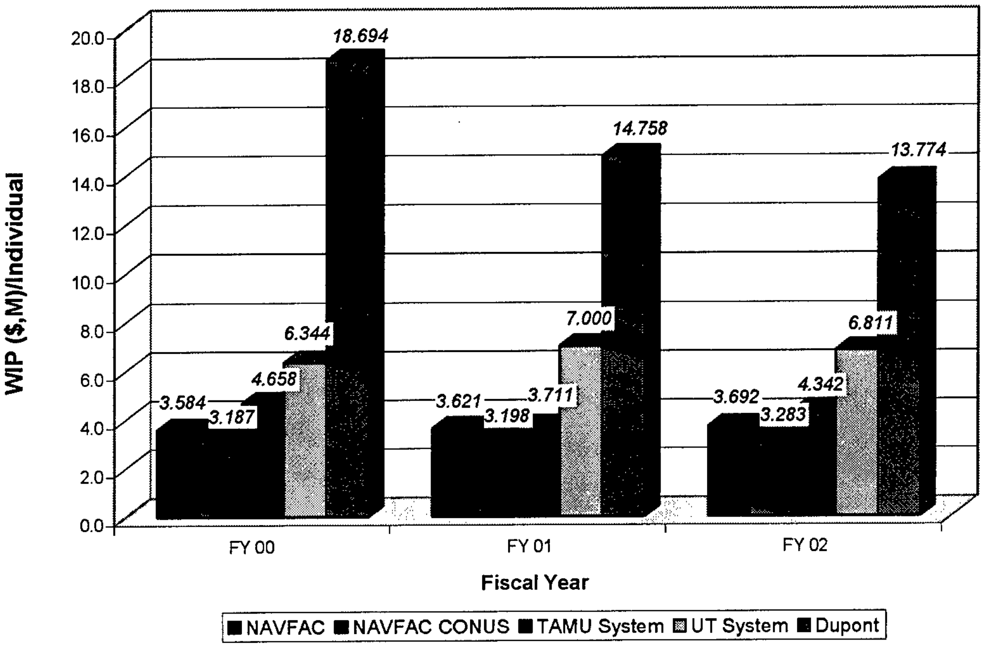


Figure 9.4. Individual Mean Workload Responsibility for Owner Organizations

The "NAVFAC" mean and standard deviation for the study period is approximately \$3.6 million and \$0.1 million, respectively. The "NAVFAC CONUS" mean and standard deviation is approximately \$3.2 million and \$0.1 million, respectively.

The workload responsibility mean and standard deviation for a TAMU FP&C individual was approximately \$4.2 million and \$0.5 million, respectively.

The workload responsibility mean and standard deviation for a U.T. System OFPC individual was approximately \$6.7 million and \$0.3 million, respectively.

The workload responsibility mean and standard deviation for a DuPont FC&S individual was approximately $15.7 million and $2.6 million, respectively.

DuPont had the highest level of average individual responsibility among the owner organizations. As discussed in Chapter Seven, the FC&S Department is responsible for the construction administration of manufacturing/process facilities. The department is not responsible for typical construction projects common with the other owner organizations. DuPont's capital projects are more complex and higher in cost when compared to the typical construction projects. The projects also include the installation of expensive process equipment which accounts for a percentage of DuPont's annual construction volume. Additionally, DuPont contracts construction administration support from a construction management contractor to support the FC&S staff with capital projects. The EPCM Contractor is utilized by DuPont on most capital projects and the EPCM staff work under the direction of the FC&S Resident Manager for construction administration duties including costs, scheduling, safety, quality assurance, contractor change requests, and contractor invoices.

CHAPTER 10: CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

1. The mean annual workload responsibility for FY 2000 through FY 2002 for NAVFAC's Project Managers, Contract Specialists and Quality Assurance Representatives was $6.7 million, $34.1 million and $7.2 million, respectively.
2. Personnel were identified within the selected industry organizations as NAVFAC equivalents or with similar ROICC Team duties.
    a. *The U.T. System* – Resident Construction Manager, Contract Manager Project Manager and Construction Inspector
    b. *TAMU System* – Construction Project Manager, Planning Division Project Manager, FP&C Executive Director, Construction Division Director and Construction Inspector
    c. *The DuPont Company* - Resident Manager, Project Engineer, FC&S Engineer, and Business Service Consultant
3. NAVFAC's Project Managers had the lowest level of workload responsibility of all four owner organizations. NAVFAC's level of workload responsibility for Project Mangers can be attributed to two factors: (1) NAVFAC's Project Managers are composed of civilians and Navy CEC Offices. CEC officers have opportunities to transfer to other CEC duties and the AROICC positions

are not permanent - the average AROICC tour is approximately two years. (2) Civilians with substantial experience in industry are easier to remove from their positions than civilians within NAVFAC. During low workload periods and downsizing, special procedures are executed by NAVFAC (e.g. early retirement and separation pay) to reduce the workforce. These procedures are not immediate and typically require planning and time to complete.

4. The mean workload responsibility for NAVFAC's Contract Specialists was consistent with the equivalents from the TAMU System and DuPont.
5. The mean workload responsibility for NAVFAC's Quality Assurance Representative was consistent with the TAMU System equivalent.
6. With respect to the mean workload responsibility per individual, NAVFAC was consistent only with the TAMU System. From a recovery fee standpoint, NAVFAC charges its customers eight percent of the total construction project cost for new, one-time construction contracts (for construction contracts funded by Other Than Navy and Marine Corps O&M and Military Construction dollars). It should also be noted that a percentage of NAVFAC's construction contracts are mission funded (i.e. paid via the activity's annual budget) and a recovery fee is not assessed to its customers. The U.T. System and TAMU System charge up to four percent of the total cost for all phases of the project: pre-project planning, design and construction.

7. NAVFAC is a federal organization and its mission is to support the military readiness of the U.S. Navy and Marine Corps combat forces through the planning, design, and construction of shore facilities. The majority of ROICC office civilians are part of the General Schedule pay scale. NAVFAC, as with all federal organizations, are bound by statutes that determine how the staffing, replacement, and transferring of civilians are dictated.
8. The U.T. System and TAMU System are public organizations that provide the opportunity of high-quality education through undergraduate, graduate, and professional schools. Human resource issues must comply with the Systems' policies, state laws and federal laws.
9. The DuPont Company is a private manufacturing company. Unlike federal and public organizations, DuPont's mission is to provide a product to consumers. DuPont's capital projects are complex and include the installation of expensive process equipment. DuPont contracts for construction administration support from a construction management contractor to support the FC&S staff with complex capital projects.

10.2 RECOMMENDATIONS FOR FURTHER STUDY

1. Analyze the construction administration fees of all four owner organizations and compare the type and level of services paid for by the organizations' respective customers.
2. Analyze NAVFAC workload responsibility for the ROICC Team and all other positions listed in the NFOR spreadsheets using data from the earliest years available through the present. Determine factors and identify trends that influenced the staffing of ROICC personnel.
3. Analyze workload responsibility between professional construction management firms.

APPENDIX A: NAVFAC NFOR DATA

Typel Factor 1.8
Typell Factor 1
Service Factor 2
Afc Factor 2
Afs Factor 3

OS LANT 1.15
OS PAC 1.15
$70M 4
FACTOR

Mil 6.3 16 %
K 7.5 13 %
T 10.0 10 %
Q 3.0 33 %
A 9.0 11 %

Kpm 8.0 17 %
100 %

Mar-00

Div	Field Office	ACF	FY00 Type I WIP $M	FY00 Type II WIP $M	FY00 Total WIP $M	FY00 Serv WIP $M	MIL Total Mil	MIL Algo	Construction Civilian/CASU K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	Service K	Service A	Service Algo	Grand Total Staff	Total Algo Staff
L	Norfolk	0.92	90.3	27.2	117.5	18.4	6	12	11	10	8	12	1	7	24	25	9	8	59	6	4	8	69	84
L	NNSY	0.92	80.6	15.5	96.1	35.7	3	9	13	8	8	10	1	6	15	20	5	7	45	8	3	18	56	78
L	Cherry Point	0.94	47.5	2.5	50.0	10.0	4	5	6	4	3	5		3	8	10	5	3	26	2		5	28	35
L	Jacksonville, NC	0.94	95.0	5.0	100.0	13.0	6	8	6	7	5	9		5	20	17	7	6	44	3		7	47	58
L	Little Creek	0.92	12.9	6.3	19.2	4.5	1	2	3	2	1	2		1	8	5	4	2	17	1	1	2	19	16
L	Oceana	0.92	47.5	9.6	57.1	3.0	4	6	5	5	3	6		4	8	12	3	4	24	2	1	2	27	39
L	Yorktown	0.92	28.5	12.6	41.1	4.4	2	5	4	4	1	5		3	6	10	3	3	16	3	1	2	20	32
L	Azores	1.34	6.7	0.4	7.1			1		1	1	1		0		1	1	0	2			0	2	4
L	Gitmo	1.35	14.3	0.8	15.1	14.0	2	1	1	1	1	1		1	3	3	4	1	11	3	1	7	15	16
L	Argentia	1.26			0.0			0	1	0		0		0		0		0	1			0	1	0
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0
L	Iceland	3	43.0	2.3	45.3	32.8	3	2	1	2	2	3		2	3	5	4	2	13	2	1	11	16	26
L	Roosevelt Roads	1.3	61.8	3.3	65.1	42.0	8	8	4	5	5	6		4	9	13	4	4	30	5	3	22	38	60
	LANTOPS Total		**528**	**86**	**614**	**178**	**39**	**57**	**56**	**48**	**38**	**60**	**2**	**36**	**106**	**120**	**49**	**40**	**288**	**35**	**15**	**86**	**338**	**449**
N	New London	1.04	41.1	2.2	43.3	22.0	4	4	4	3	4	4	0	2	8	8	4	3	24	1	2	11	27	35
N	Brunswick	0.85	19.1	1.0	20.1	1.7	2	2	2	2	3	2	0	1	2	4	2	1	11	1	1	1	12	13
N	North Maine	0.85	6.6	0.3	6.9	0.9	0	1	1	1	1	1	0	0	3	1	0	0	5	0	1	0	6	5
N	Portsmouth	1.04	17.6	0.9	18.5	6.5	2	2	3	1	4	2	0	1	2	3	1	1	12	0	1	3	13	14
N	Earle	1.21	17.0	0.9	17.9	6.3	2	1	1	1	1	2	0	1	4	3	1	1	9	1	1	3	11	12
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	2	1	8	2	1	3	11	11
N	East PA	1.06	20.5	1.1	21.6	6.8	3	2	3	2	3	2	0	1	4	4	1	1	14	3	0	3	18	15
N	Mechanicsburg	0.84	15.9	0.8	16.7	3.9	1	2	1	1	1	2	0	1	4	3	2	1	9	1	1	2	11	12
N	Philadelphia	1.08	16.2	0.9	17.1	11.1	2	2	2	1	1	2	0	1	3	3	1	1	8	4	0	5	12	15
N	Newport	1.07	56.4	3.0	59.4	13.8	4	5	6	4	4	6	0	3	10	11	2	4	26	2	2	7	29	40
	NorthDiv Total		**225**	**12**	**237**	**79**	**22**	**21**	**22**	**18**	**23**	**22**	**0**	**13**	**43**	**45**	**16**	**16**	**126**	**13**	**9**	**39**	**149**	**173**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0
C	Bethesda	0.95	29.0	9.6	38.6	24.6	2	4	6	4	5	4	4	3	3	8	4	3	24	8	1	13	33	39
C	NDW	0.85	86.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	84
C	Dahlgren	0.8	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	19
C	Indian Head	0.81	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33
C	Quantico	0.92	50.0	2.7	52.7	6.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	35
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	29	41
	EFA Ches Total		**363**	**50**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**25**	**23**	**84**	**27**	**28**	**178**	**36**	**9**	**63**	**223**	**306**
M	Aviano	1.33	57.0	3.0	60.0	0.0	4	5	2	5	4	6	1	3	8	11	3	4	22	0	0	0	22	34
M	Vicenza	1.33	7.6	0.4	8.0	0.0	1	1	1	1	1	1	0	0	3	2	1	1	7	0	0	0	7	6
M	La Maddalena	1.37	1.2	0.2	1.4	3.3	1	0	1	0	1	0	0	0	1	0	0	0	4	3	4	2	11	3
M	Sigonella	1.32	50.4	1.5	51.9	10.0	0	5	1	4	0	5	0	3	1	10	0	3	2	0	1	5	3	35
M	London	1.4	1.8	0.2	2.0	2.4	5	0	4	0	1	0	1	0	7	0	3	0	21	3	2	1	26	2
M	Rota	1.12	18.0	1.0	20.0	8.0	0	2	1	2	1	2	0	1	2	4	0	1	4	1	1	4	6	17
M	Souda Bay	0.74	4.5	0.5	5.0	1.3	2	1	1	1	3	1	0	0	4	1	1	0	11	6	2	1	19	5
M	Bahrain	1.46	6.0	1.0	7.0	2.5	1	1	1	1	1	1	0	0	3	1	1	0	7	1	0	1	8	5
M	Cairo	1.31	0.4	0.1	0.5	0.0	2	0	1	0	0	0	1	0	1	0	1	0	6	1	0	0	7	0
M	Southern Italy	1.29	2.8	0.2	3.0	10.5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	6	0	7
M	OICC Naples	1.29	69.1	0.0	69.1	0.1	5	6	2	5	11	6	6	4	13	13	7	4	44	0	0	0	44	39
	EFA Med Total		**220**	**8**	**228**	**38**	**21**	**21**	**16**	**17**	**23**	**22**	**9**	**13**	**43**	**44**	**17**	**16**	**128**	**16**	**10**	**20**	**163**	**162**
	LANT TOTAL		**1336**	**166**	**1492**	**397**	**112**	**139**	**117**	**117**	**116**	**146**	**53**	**88**	**214**	**293**	**109**	**96**	**720**	**99**	**43**	**197**	**863**	**1079**
P	MCBH	1.52	74.5	0.0	74.5	0.0	2.0	6	3.0	5	7.0	6	0.0	4	7	12	4	4	23	0	0	0	23	37
P	Pearl Harbor	1.47	147.8	65.0	212.8	75.0	8.0	18	25.0	15	12.0	18	3.0	11	26	38	10	13	84	28	10	37	122	152
P	Kaho'olawe	1.5	0.0	40.0	40.0	0.0	0.0	6	6.0	5	7.0	6	0.0	4	5	12	1	4	18	0	0	0	18	37
P	Marianas	1.89	89.6	16.0	105.6	35.8	3.0	7	7.0	6	8.0	8	0.0	5	11	15	4	5	34	4	1	15	39	62
P	Singapore	1.5	5.5	0.0	5.5	3.5	1.0	0	1.5	0	1.0	0	0.0	0	0	1	0	0	4	2.5	0	2	6	5
P	Diego Garcia	2.45	5.1	1.5	6.6	0.0	0.0	0	0.0	0	2.0	0	0.0	0	1	1	1	0	4	0	0	0	4	3
P	Johnston	2.27	0.0	0.0	0.0	22.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	3	0	8	3	8
P	OICC FE/Yoko	1.56	27.7	10.9	38.6	23.1	2.0	4	2.0	3	5.0	4	0.0	2	8	8	2	3	18	1	1	11	21	35
P	Sasebo	1.56	7.4	1.8	9.2	11.7	1.0	1	2.0	1	1.0	1	0.0	1	3	2	3	1	10	0	0	6	10	11
P	Okinawa	1.5	26.7	4.3	31.0	30.0	4.0	3	4.0	2	2.0	3	0.0	2	7	6	3	2	20	0	0	15	20	32
P	Atsugi	1.65	9.0	1.8	10.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	11
P	Iwakuni	1.56	6.3	0.3	6.6	3.6	1.0	1	1.0	0	0.0	1	0.0	0	3	1	0	0	5	0	0	2	5	5
P	Chinhae	1.07	0.6	0.0	0.6	0.6	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1
P	Misawa	1.64	0.3	0.1	0.4	0.8	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1
	PAC Total		**401**	**142**	**542**	**217**	**23**	**47**	**56**	**40**	**46**	**49**	**3**	**30**	**76**	**99**	**28**	**33**	**231**	**39**	**12**	**103**	**281**	**400**
SW	Barstow	1.17	17.7	1.8	19.5	2.3	1.0	2	3.0	1	3.0	2		1		4	1	1	8	2.0		1	10	12
SW	China Lake	1.26	29.1	3.9	33.0	17.0	3.0	3	6.0	2	6.0	3		2		6	1	2	16	5.0	1.0	8	22	26
SW	Coronado	1.1	35.8	5.2	41.0	6.4	4.0	4	4.0	3	2.0	4		2		8	2	3	12	4.0	2.0	3	18	27
SW	El Centro	1.14	9.5	1.1	10.6	10.4	1.0	1	2.0	1	2.0	1		1		2	0	1	5	2.0		5	7	11
SW	Miramar	1.1	73.1	8.1	81.2	8.0	3.0	7	4.0	6	7.0	8		5		15	4	5	18	3.0	4.0	4	25	50
SW	Camp Pendleton	1.1	164.9	17.2	182.1	4.2	9.0	12	17.0	10	23.0	13		8		25	7	8	56	6.0	2.0	2	64	78
SW	Ventura County	1.13	40.2	7.0	47.2	16.4	6.0	4	6.0	4	15.0	5		3		9	4	3	31	5.0	3.0	8	39	35
SW	Bridgeport	1.2	2.7		2.7	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	2
SW	San Diego	1.1	29.7	3.3	33.0	10.0	2.0	3	6.0	3	2.0	3		2		6	2	2	12	5.0	2.0	5	19	24
SW	Point Loma	1.1	22.9	5.0	27.9	5.7	2.0	3	4.0	2	4.0	3		2		6	4	2	14	4.0	3.0	3	21	20
SW	El Toro (closed)	1.05																	0				0	0
SW	Los Angeles	1.12	7.4	0.9	8.3	3.3	0.0	1	4.0	1	6.0	1		0		2	2	1	12	3.0	3.0	2	18	8
SW	29 Palms	1.29	31.3	2.5	33.8	0.8	2.0	3	3.0	2	6.0	3		2		6	2	2	13	1.0	1.0	0	15	18
SW	Yuma	1.12	25.0	4.0	29.0	3.0	1.0	3	2.0	2	3.0	3		2		6	1	2	7	2.0		1	9	18
	SWDiv Total		**489**	**60**	**549**	**88**	**34**	**45**	**62**	**38**	**80**	**47**	**0**	**28**	**0**	**94**	**31**	**31**	**207**	**43**	**21**	**42**	**270**	**326**
NW	Bremerton	1.16	8.3	4	12.3	20.8	4	1	1	1	3	1	3	1	2	3	2	1	15	10		10	25	18
NW	Everett	1.11	5.8	0.65	6.45	6.7	1	1	0	0	1	1	2	0	1	1	1	0	6	6		3	12	7
NW	NAS Whidby Island	1.15	23.4	2.6	26	26	2	2	1	2	1	2	5	1	2	5	0	2	11	5		12	16	27
NW	Fallon	1.16	16.4	4.0	20.4	17.7	3.0	2	4.0	2	0.5	2	0.5	1	3	4	2	1	13	1		8	14	21
NW	Silverdale	1.11	25.3	0.78	26.08	55.3	5	2	0	2	2	2	5	1	3	5	2	2	17	12		27	29	41
	EFA NW Total		**79**	**12**	**91**	**127**	**16**	**8**	**6**	**7**	**8**	**9**	**16**	**5**	**11**	**17**	**7**	**6**	**62**	**34**		**61**	**96**	**113**
CW	Concord	1.16	6.2	1.0	7.2	0.0	1.0	1	1.0	1	1.5	1	0.5	0	2	1	1	0	7	0		0	7	4
CW	San Francisco	1.2	2.1	51.2	53.3	0.4	1.0	8	4.0	6	4.0	8	1.0	5	3	16	0	5	13	0		0	13	48
CW	Lemoore	1.05	51.7	0.6	52.3	2.4	4.0	5	4.0	4	2.5	5	0.5	3	6	10	3	3	20	1		1	21	30
CW	Monterey	1.17	20.1	0.6	20.7	6.0	1.0	2	5.0	1	1.5	2	0.5	1	2	4	0	1	10	0		3	10	14
CW	Travis	1.18	48.6	1.7	50.3	0.0	3.0	4	4.0	4	3.0	4	1.0	3	3	9	4	3	18	0		0	18	26
	EFA CW Total		**129**	**56**	**184**	**9**	**10**	**19**	**18**	**16**	**13**	**20**	**4**	**12**	**16**	**39**	**8**	**13**	**68**	**1**		**4**	**69**	**122**
	SWEST TOTAL		**697**	**127**	**824**	**223**	**69**	**72**	**86**	**60**	**100**	**76**	**19**	**45**	**27**	**151**	**46**	**50**	**337**	**78**		**107**	**436**	**561**

S	Albany, GA	0.78	7.6	0.7	8.3	6.0	1	1	2	1	1	1	0	1	2	2	2	1	8	1	1	3	10	9
S	Atlanta, GA	0.81	8.8	0.1	8.8	0.3	0	1	1	1	2	1	0	1	2	2	0.5	1	6	0	0.5	0	8	5
S	Barksdale, LA	0.83	18.8	0.0	18.8	0.0	3	2	1	2	1	2	0	1	4	4	1	1	10	0		0	10	11
S	Beaufort, SC	1.04	67.0	1.4	68.4	9.1	3	6	3	5	4	6	1	4	10	13	3	4	24	3	1	4	28	42
S	Charleston, SC	0.89	55.6	1.8	57.4	16.3	4	5	4	5	7	6	0	3	10	12	4	4	29	2	1	8	32	43
S	Fort Worth, TX	0.88	22.3	1.8	24.1	1.8	3	2	3	2	3	3	0	2	4	5	2	2	15	1	1	1	17	18
S	Gulfport, MS	0.82	76.3	0.5	76.8	3.0	4	7	3	6	6	7	0	4	15	14	5	6	33	1	1	2	35	44
S	Jacksonville, FL	0.81	84.8	30.9	115.7	47.3	6	12	10	10	8	13	0	8	23	26	10	8	58	18	4	24	80	102
S	Key West, FL	1.1	39.6	0.6	40.2	4.5	4	3	3	3	3	4	0	2	6	7	2	2	18	2	1	2	21	24
S	Kings Bay FSC, GA	0.86	0.9	3.3	4.2	33.7	0	1	0	1	0	1	0	0	0	1	0	0	0	5	3	17	8	21
S	Memphis, TN	0.81	8.8	1.0	10.8	12.5	2	1	4	1	4	1	0	1	3	2	3	1	16	1	1	6	18	13
S	Meridian, MS	0.95	11.5	0.8	12.3	1.4	1	1	1.5	1	1	1	0	1	3	2	1	1	8	0.5	0	1	8	8
S	New Orleans, LA	0.95	39.4	0.4	39.8	4.2	3	4	3	3	3	4	0	2	7	8	1	3	17	1	1	2	19	25
S	Panama City, FL	0.82	5.4	0.3	5.7	2.9	1	1	1	0	1	1	0	0	1	1	1	0	5	0	0	2	5	5
S	Pensacola, FL	0.84	36.3	2.0	38.3	11.6	4	4	5	3	5	4	0	2	7	8	4	3	25	2	1	6	28	30
S	South Texas, TX	0.9	34.0	3.2	37.2	21.8	4	4	5	3	4	4	0	2	8	8	5	3	26	2	3	11	31	35
	SouthDivTotal		**618**	**49**	**667**	**176**	**43**	**64**	**60**	**46**	**64**	**57**	**1**	**34**	**106**	**114**	**45**	**38**	**297**	**40**	**20**	**91**	**356**	**434**
MW	Crane, IN	1.01	33.5	1.0	34.5	4.5	3	3	2	3	8	3	1	2	4	7	1.5	2	20	0.5	0	2	20	22
MW	Great Lakes, IL	1.26	66.0	2.0	68.0	6.0	6	5	1	5	4	6	2	3	5	11	2	4	20	0		3	20	37
	EFA MidWest Total		**100**	**3**	**103**	**11**	**9**	**9**	**3**	**7**	**12**	**9**	**3**	**6**	**9**	**18**	**4**	**6**	**40**	**1**	**0**	**6**	**40**	**69**
	SOUTH TOTAL		**618**	**52**	**669**	**187**	**62**	**63**	**63**	**63**	**66**	**66**	**4**	**40**	**114**	**132**	**48**	**44**	**337**	**40**	**20**	**96**	**396**	**493**
	GRAND TOTAL		**3052**	**476**	**3528**	**1025**	**246**	**321**	**310**	**270**	**327**	**337**	**79**	**202**	**431**	**676**	**231**	**226**	**1624**	**266**		**603**	**1976**	**2633**
	CONUS		2305.60				189		233		249		87		297		173		1208					
	LANT						18		18		18		7		30		15		100			72		
	PAC						10		24		20		1		33		12		100			49		
	SWEST						18		25		30		8		8		14		100			73		
	SOUTH						15		18		20		1		34		14		100			82		

TypeI Factor	**1.8**	**OS LANT**	**1.16**	**Mil**	**8.3**	**16 %**
TypeII Factor	**1**	**OS PAC**	**1.16**	**K**	**7.5**	**13 %**
Service Factor	**2**	**$70M**	**4**	**T**	**10.0**	**10 %**
Afc Factor	**2**	**FACTOR**		**Q**	**3.0**	**33 %**
Afs Factor	**3**			**A**	**9.0**	**11 %**

Kpm **6.0** **17 %**

100 %

Jun-00

Div	Field Office	ACF	FY00 Type I WIP $M	FY00 Type II WIP $M	FY00 Total WIP $M	FY00 Serv WIP $M	MIL Total Mil	MIL Algo	Construction Civilian/CASU K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	Service K	Service A	Service Algo	Grand Total Staff	Total Algo Staff
L	Norfolk	0.92	90.3	27.2	117.5	18.4	6	12	11	10	8	12	1	7	24	25	9	8	59	6	4	9	69	84
L	NNSY	0.92	80.6	15.5	96.1	35.7	3	9	13	8	8	10	1	6	15	20	5	7	45	8	3	18	56	78
L	Cherry Point	0.94	47.5	2.5	50.0	10.0	4	5	8	4	3	5		3	8	10	5	3	26	2		5	28	35
L	Jacksonville, NC	0.94	95.0	5.0	100.0	13.0	6	8	6	7	5	9		5	20	17	7	6	44	3		7	47	58
L	Little Creek	0.92	12.9	6.3	19.2	4.5	1	2	3	2	1	2		1	8	5	4	2	17	1	1	2	18	16
L	Oceana	0.92	47.5	9.6	57.1	3.0	4	6	5	5	3	6		4	9	12	3	4	24	2	1	2	27	38
L	Yorktown	0.92	28.5	12.6	41.1	4.4	2	5	4	4	1	5		3	6	10	3	3	16	3	1	2	20	32
L	Azores	1.34	6.7	0.4	7.1			1		1	1	1		0		1	1	0	2			0	2	4
L	Gitmo	1.35	14.3	0.8	15.1	14.0	2	1	1	1	1	1		1	3	3	4	1	11	3	1	7	15	16
L	Argentia	1.26			0.0			0	1	0		0		0		0		0	1			0	1	0
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0
L	Iceland	3	43.0	2.3	45.3	32.8	3	2	1	2	2	3		2	3	5	4	2	13	2	1	11	16	26
L	Roosevelt Roads	1.3	61.8	3.3	65.1	42.0	8	6	4	5	5	6		4	9	13	4	4	30	5	3	22	38	60
	LANTOPS Total		**528**	**86**	**614**	**178**	**39**	**67**	**55**	**48**	**38**	**60**	**2**	**36**	**105**	**120**	**49**	**40**	**288**	**35**	**15**	**86**	**338**	**449**
N	New London	1.04	41.1	2.2	43.3	22.0	4	4	4	3	4	4	0	2	8	8	4	3	24	1	2	11	27	35
N	Brunswick	0.95	19.1	1.0	20.1	1.7	2	2	2	2	3	2	0	1	2	4	2	1	11	1	1	1	12	13
N	North Maine	0.95	6.6	0.3	6.9	0.9	0	1	1	1	1	1	0	0	3	1	0	0	5	0	1	0	8	5
N	Portsmouth	1.04	17.6	0.9	18.5	6.5	2	2	3	1	4	2	0	1	2	3	1	1	12	0	1	3	13	14
N	Earle	1.21	17.0	0.8	17.8	6.3	2	1	1	1	1	2	0	1	4	3	1	1	9	1	1	3	11	12
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	2	1	9	2	1	3	11	11
N	East PA	1.06	20.5	1.1	21.6	8.8	3	2	3	2	3	2	0	1	4	4	1	1	14	3	0	3	16	15
N	Mechanicsburg	0.94	15.9	0.8	16.7	3.8	1	2	1	1	1	2	0	1	4	3	2	1	9	1	1	2	11	12
N	Philadelphia	1.08	16.2	0.9	17.1	11.1	2	2	2	1	1	2	0	1	3	3	1	1	9	4	0	5	12	15
N	Newport	1.07	56.4	3.0	59.4	13.8	4	5	6	4	4	6	0	3	10	11	2	4	26	2	2	7	29	40
	NorthDiv Total		**225**	**12**	**237**	**79**	**22**	**21**	**22**	**18**	**23**	**22**	**0**	**13**	**43**	**46**	**16**	**16**	**126**	**13**	**9**	**39**	**149**	**173**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0
C	Bethesda	0.95	29.0	9.6	38.6	24.6	2	4	8	4	5	4	4	3	3	9	4	3	24	8	1	13	33	39
C	NDW	0.95	96.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	84
C	Dahlgren	0.8	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	19
C	Indian Head	0.91	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33
C	Quantico	0.92	50.0	2.7	52.7	6.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	35
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	28	41
	EFA Ches Total		**363**	**50**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**25**	**23**	**84**	**27**	**28**	**178**	**36**	**9**	**63**	**223**	**306**
M	Aviano	1.33	57.0	3.0	60.0	0.0	4	5	2	5	4	6	1	3	8	11	3	4	22	0	0	0	22	34
M	Vicenza	1.33	7.6	0.4	8.0	0.0	1	1	1	1	1	1	0	0	3	2	1	1	7	0	0	0	7	5
M	La Maddalena	1.37	1.2	0.2	1.4	3.3	1	0	1	0	1	0	0	0	1	0	0	0	4	3	4	2	11	3
M	Sigonella	1.32	50.4	1.5	51.9	10.0	0	5	1	4	0	5	0	3	1	10	0	3	2	0	1	5	3	35
M	London	1.4	1.8	0.2	2.0	2.4	5	0	4	0	1	0	1	0	7	0	3	0	21	3	2	1	28	2
M	Rota	1.12	19.0	1.0	20.0	8.0	0	2	1	2	1	2	0	1	2	4	0	1	4	1	1	4	6	17
M	Souda Bay	0.74	4.5	0.5	5.0	1.3	2	1	1	1	3	1	0	0	4	1	1	0	11	6	2	1	18	5
M	Bahrain	1.46	6.0	1.0	7.0	2.5	1	1	1	1	1	1	0	0	3	1	1	0	7	1	0	1	8	6
M	Cairo	1.31	0.4	0.1	0.5	0.0	2	0	1	0	0	0	1	0	1	0	1	0	6	1	0	0	7	0
M	Southern Italy	1.29	2.8	0.2	3.0	10.5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	6	0	7
M	OICC Naples	1.29	69.1	0.0	69.1	0.1	5	6	2	5	11	6	6	4	13	13	7	4	44	0	0	0	44	39
	EFA Med Total		**220**	**8**	**228**	**38**	**21**	**21**	**16**	**17**	**23**	**22**	**9**	**13**	**43**	**44**	**17**	**16**	**128**	**15**	**10**	**20**	**153**	**152**
	LANT TOTAL		**1336**	**155**	**1492**	**397**	**112**	**139**	**117**	**117**	**115**	**146**	**63**	**88**	**214**	**293**	**109**	**98**	**720**	**99**	**43**	**197**	**863**	**1079**
P	MCBH	1.52	74.5	0.0	74.5	0.0	2.0	6	3.0	5	8.0	6	0.0	4	6	12	3	4	22	0	0	0	22	37
P	Pearl Harbor	1.47	165.0	65.0	230.0	70.0	8.0	19	26.0	16	13.0	20	3.0	12	27	40	10	13	87	27	9	35	123	154
P	Kaho'olawe	1.5	0.0	40.0	40.0	0.0	0.0	5	6.0	5	7.0	6	0.0	4	5	12	1	4	19	0	0	0	19	37
P	Marianas	1.89	89.6	16.0	105.6	35.8	3.0	7	7.0	6	8.0	8	0.0	5	11	15	4	5	34	5	1	15	40	62
P	Singapore	1.5	5.5	0.0	5.5	3.5	1.0	0	1.5	0	1.0	0	0.0	0	0	1	0	0	4	3.5	0	2	7	5
P	Diego Garcia	2.45	2.6	1.5	4.1	0.0	0.0	0	0.0	0	2.0	0	0.0	0	1	1	1	0	4	0	0	0	4	2
P	Johnston	2.27	0.0	0.0	0.0	22.0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	8	0	8
P	OICC FE/Yoko	1.56	27.7	10.8	38.6	23.1	2.0	4	4.0	3	5.0	4	0.0	2	8	8	3	3	23	5	1	11	28	35
P	Sasebo	1.56	7.4	1.8	9.2	11.7	1.0	1	2.0	1	1.0	1	0.0	1	3	2	2	1	8	0	0	6	8	11
P	Okinawa	1.5	26.7	4.3	31.0	30.0	3.0	3	4.0	2	2.0	3	0.0	2	8	6	1	2	18	0	0	15	18	32
P	Atsugi	1.65	9.0	1.8	10.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	11
P	Iwakuni	1.56	6.3	0.3	6.6	3.6	1.0	1	1.0	0	0.0	1	0.0	0	3	1	1	0	6	0	0	2	6	5
P	Chinhae	1.07	0.6	0.0	0.6	0.6	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1
P	Misawa	1.64	0.3	0.1	0.4	0.8	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1
	PAC Total		**416**	**142**	**567**	**212**	**22**	**48**	**68**	**40**	**48**	**60**	**3**	**30**	**78**	**100**	**26**	**33**	**235**	**41**	**11**	**100**	**286**	**401**
SW	Barstow	1.17	17.7	1.8	19.5	2.3	1.0	2	3.0	1	3.0	2		1		4	1	1	8	2.0		1	10	12
SW	China Lake	1.26	29.1	3.8	33.0	17.0	3.0	3	6.0	2	6.0	3		2		6	1	2	16	3.0	1.0	8	20	28
SW	Coronado	1.1	35.8	5.2	41.0	6.4	4.0	4	7.0	3	1.0	4		2		8	1	3	13	6.0	2.0	3	21	27
SW	El Centro	1.14	9.5	1.1	10.6	10.4	1.0	1	2.0	1	2.0	1		1		2	0	1	5	1.0		5	6	11
SW	Miramar	1.1	73.1	8.1	81.2	8.0	3.0	7	5.0	6	6.0	8		5		15	4	5	18	3.0	4.0	4	25	50
SW	Camp Pendleton	1.1	164.9	17.2	182.1	4.2	8.0	12	18.0	10	22.0	13		8		25	4	8	53	6.0	2.0	2	61	78
SW	Ventura County	1.13	40.2	7.0	47.2	16.4	4.0	4	6.0	4	13.0	5		3		8	4	3	27	6.0	3.0	8	35	36
SW	Bridgeport	1.2	2.7		2.7	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	2
SW	San Diego	1.1	29.7	3.3	33.0	10.0	2.0	3	6.0	3	2.0	3		2		6	2	2	12	5.0	2.0	5	18	24
SW	Point Loma	1.1	22.9	5.0	27.9	5.7	2.0	3	6.0	2	4.0	3		2		6	4	2	16	4.0	1.0	3	21	20
SW	El Toro (closed)	1.05																	0				0	0
SW	Los Angeles	1.12	7.4	0.9	8.3	3.3	0.0	1	4.0	1	6.0	1		0		2	2	1	12	3.0	2.0	2	17	6
SW	29 Palms	1.29	31.3	2.5	33.8	0.8	2.0	3	4.0	2	5.0	3		2		6	2	2	13	1.0	1.0	0	15	18
SW	Yuma	1.12	25.0	4.0	29.0	3.0	1.0	3	2.0	2	3.0	3		2		6	1	2	7	2.0		1	9	18
	SWDiv Total		**489**	**60**	**549**	**88**	**32**	**45**	**70**	**38**	**74**	**47**	**0**	**28**	**0**	**94**	**27**	**31**	**203**	**42**	**18**	**42**	**262**	**326**
NW	Bremerton	1.16	8.3	4	12.3	20.8	4	1	1	1	2	1	2	1	2	3	1	1	12	12	2	10	26	18
NW	Everett	1.11	5.8	0.65	6.45	6.7	1	1	0	0	1	1	1	0	1	1	2	0	6	4		3	10	7
NW	NAS Whidby Island	1.15	23.4	2.6	26	26	2	2	1	2	1	2	4	1	2	5	1	2	11	4		12	15	27
NW	Fallon	1.18	16.4	4.0	20.4	17.7	2.0	2	4.0	2	1.0	2	1.0	1	3	4	2	1	13	1		8	14	21
NW	Silverdale	1.11	25.3	0.78	26.08	55.3	5	2	0	2	2	2	3	1	3	5	2	2	15	11	1	27	27	41
	EFA NW Total		**79**	**12**	**91**	**127**	**14**	**8**	**6**	**7**	**7**	**9**	**11**	**6**	**11**	**17**	**8**	**6**	**57**	**32**		**61**	**92**	**113**
CW	Concord	1.16	6.2	1.0	7.2	0.0	1.0	1	1.0	1	1.0	1	0.0	0	1	1	1	0	5	0		0	5	4
CW	San Francisco	1.2	2.1	51.2	53.3	0.4	1.0	8	3.0	6	4.0	8	1.0	5	3	16	0	5	12	0		0	12	48
CW	Lemoore	1.05	51.7	0.6	52.3	2.4	4.0	5	4.0	4	2.5	5	0.5	3	5	10	3	3	19	0		1	18	30
CW	Monterey	1.17	20.1	0.6	20.7	6.0	1.0	2	5.0	1	1.5	2	0.5	1	2	4	0	1	10	0		3	10	14
CW	Travis	1.18	48.6	1.7	50.3	0.0	3.0	4	4.0	4	3.0	4	1.0	3	3	8	4	3	18	0		0	18	28
	EFA CW Total		**129**	**55**	**184**	**9**	**10**	**19**	**17**	**16**	**12**	**20**	**3**	**12**	**14**	**39**	**8**	**13**	**64**	**0**		**4**	**64**	**122**
	SWEST TOTAL		**697**	**127**	**824**	**223**	**56**	**72**	**93**	**60**	**93**	**76**	**14**	**45**	**25**	**151**	**43**	**60**	**324**	**74**		**107**	**418**	**561**

S	Albany, GA	0 79	7 2	0 7	7 9	6 0	1	1	2	1	1	1	0	1	2	2	2	1	8	1	1	3	10	8
S	Atlanta, GA	0 81	8 8	0 1	8 9	0 4	0	1	1	1	2	1	0	1	2	2	0 5	1	8	0	0 5	0	8	5
S	Barksdale, LA	0 83	15 6	0 0	15 6	0 0	2	2	1	1	2	2	0	1	3	3	1	1	8	0	0	0	9	10
S	Beaufort, SC	1 04	66 1	1 4	67 5	9 1	2	6	4	5	6	6	1	4	9	12	3	4	25	3	1	4	29	42
S	Charleston, SC	0 89	50 2	1 8	52 0	16 3	3	5	5	4	7	5	0	3	11	10	3	3	29	3	1	6	33	40
S	Fort Worth, TX	0 89	22 3	1 8	24 1	1 8	2	2	3	2	3	3	0	2	4	5	2	2	14	1	1	1	18	18
S	Gulfport MS	0 92	74 9	0 5	75 4	3 0	4	7	4	6	8	7	1	4	16	14	6	5	37	1	1	2	39	44
S	Jacksonville, FL	0 81	80 7	30 9	111 6	47 3	6	12	11	10	11	13	0	8	24	25	10	8	62	19	4	24	85	101
S	Key West, FL	1 1	42 0	0 6	42 6	4 5	4	4	3	3	4	4	0	2	7	8	2	3	20	2	1	2	23	25
S	Kings Bay FSC, GA	0 96	1 0	3 3	4 3	36 0	0	1	0	1	0	1	0	0	0	1	0	0	0	6	3	18	9	22
S	Memphis, TN	0 91	8 7	1 0	10 7	12 5	2	1	4	1	4	1	0	1	4	2	3	1	17	1	1	6	19	13
S	Meridian, MS	0 95	10 8	0 8	11 6	1 4	1	1	2	1	2	1	0	1	3	2	1	1	9	1	0	1	10	8
S	New Orleans, LA	0 95	37 5	0 4	37 9	4 2	3	3	3	3	3	4	0	2	7	7	1	2	17	1	1	2	19	24
S	Panama City, FL	0 82	5 3	0 3	5 6	2 9	1	1	1	0	1	1	0	0	1	1	1	0	5	1	0	2	6	5
S	Pensacola, FL	0 84	35 1	2 0	37 1	11 6	4	4	5	3	4	4	0	2	7	8	3	3	23	2	1	6	28	30
S	South Texas, TX	0 9	34 0	3 2	37 2	21 8	4	4	4	3	4	4	0	2	8	8	4	3	24	2	3	11	29	35
	SouthDivTotal		**601**	**49**	**650**	**179**	**39**	**63**	**63**	**45**	**60**	**66**	**2**	**33**	**108**	**111**	**43**	**37**	**305**	**44**	**20**	**92**	**368**	**427**
MW	Crane, IN	1.01	33 5	1 0	34 5	4 5	3	3	3	3	5	3	1	2	4	7	0 8	2	17	3	0 2	2	20	22
MW	Great Lakes, IL	1.26	66 0	2 0	68 0	6 0	6	5	5 5	5	4	6	0	3	7	11	3 5	4	26	0 5	0 5	3	27	37
	EFA MidWest Total		**100**	**3**	**103**	**11**	**9**	**9**	**9**	**7**	**9**	**9**	**1**	**5**	**11**	**18**	**4**	**6**	**43**	**4**	**1**	**6**	**47**	**69**
	SOUTH TOTAL		**601**	**62**	**653**	**189**	**48**	**62**	**62**	**62**	**69**	**65**	**3**	**39**	**119**	**129**	**47**	**43**	**347**	**48**	**20**	**97**	**415**	**496**
	GRAND TOTAL		**3060**	**476**	**3626**	**1022**	**238**	**321**	**329**	**269**	**326**	**337**	**73**	**202**	**436**	**673**	**226**	**224**	**1626**	**261**		**501**	**1982**	**2527**
	CONUS		2288 70				182		249		245		81		300		168		1206					
	LANT						16		16		16		7		30		15		100			72		
	PAC						8		25		20		1		33		11		100			51		
	SWEST						17		29		29		4		8		13		100			88		
	SOUTH						14		18		20		1		34		13		100			70		

TypeI Factor 1.8 OS LANT 1.15
TypeII Factor 1 OS PAC 1.15
Service Factor 2 $70M 4
Afc Factor 2 FACTOR
Afs Factor 3

Mil 6.3 16 % Kpm 6.0 17 %
K 7.5 13 % 100 %
T 10.0 10 %
Q 3.0 33 %
A 9.0 11 %

Sep-00

Dv	Field Office	ACF	FY01 Type I WIP $M	FY01 Type II WIP $M	FY01 Total WIP $M	FY01 Serv WIP $M	MIL		Construction												Service			Grand Total Staff	Total Algo Staff
									Civilian/CASU																
							Total Mil	Algo	K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	K	A	Algo		
L	Norfolk	0.82	110.0	5.0	115.0	11.0	6	9	11	7	8	9	1	6	24	18	9	6	58	8	4	6	68	62
L	NNSY	0.92	60.0	25.0	85.0	25.0	3	10	13	8	8	10	1	6	15	20	5	7	45	8	3	13	58	74
L	Cherry Point	0.94	38.3	2.1	40.4	15.0	4	4	6	3	3	4		2	8	8	5	3	26	2		8	28	32
L	Jacksonville, NC	0.94	110.0	2.0	112.0	15.0	6	8	6	7	5	9		5	20	17	7	6	44	3		8	47	60
L	Little Creek	0.82	16.9	3.1	20.0	3.5	1	2	3	2	1	2		1	8	4	4	1	17	1	1	2	19	15
L	Oceana	0.82	69.0	10.0	79.0	12.0	3	8	7	7	2	8	2	5	8	17	1	6	23	3	0	6	26	57
L	Yorktown	0.92	20.0	6.1	26.1	4.3	2	3	4	2	1	3		2	6	6	3	2	16	3	1	2	20	20
L	Azores	1.34	7.0	0.0	7.0	0.0		1		1	1	1		0		1	1	0	2			0	2	4
L	Gitmo	1.35	10.5	6.0	16.5	14.0	2	2	1	2	1	2		1	3	4	4	1	11	3	1	7	15	18
L	Argenba	1.26			0.0			0	1	0		0		0		0		0	1			0		0
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0
L	Iceland	3	36.0	4.1	40.1	24.0	3	2	1	2	2	2		1	3	5	4	2	13	2	1	8	18	22
L	Roosevelt Roads	1.3	100.0	3.0	103.0	28.0	8	8	4	7	5	8		5	9	16	4	5	30	5	3	14	38	63
	LANTOPS Total		**678**	**66**	**644**	**160**	**38**	**56**	**57**	**47**	**37**	**69**	**4**	**36**	**104**	**118**	**47**	**39**	**287**	**36**	**14**	**73**	**336**	**428**
N	New London	1.04	39.0	2.1	41.1	18.5	4	4	4	3	3	4	1	2	7	8	3	3	22	1	2	8	25	33
N	Brunswick	0.85	17.1	0.9	18.0	1.7	2	2	2	1	2	2	1	1	3	4	2	1	12	0	1	1	13	12
N	North Maine	0.95	6.4	0.3	6.7	0.7	0	1	1	1	1	1	0	0	2	1	0	0	4	0	1	0	5	4
N	Portsmouth	1.04	17.6	0.9	18.5	5.4	2	2	3	1	2	2	1	1	3	3	1	1	12	0	1	3	13	13
N	Earle	1.21	16.9	0.9	17.8	6.3	2	1	1	1	1	2	0	1	5	3	1	1	10	1	1	3	12	12
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	1	1	9	2	1	3	12	11
N	East PA	1.06	24.0	1.3	25.3	4.9	3	2	2	2	1	2	1	1	3	5	1	2	11	3	0	2	14	17
N	Mechanicsburg	0.94	15.7	0.8	16.5	3.9	1	2	1	1	1	2	1	1	3	3	1	1	8	1	1	2	10	12
N	Philadelphia	1.08	12.7	0.7	13.4	7.9	2	1	2	1	1	1	0	1	3	2	1	1	9	3	0	4	12	11
N	Newport	1.07	48.6	2.6	51.2	13.8	4	5	5	4	2	5	1	3	7	10	3	3	22	2	2	7	26	35
	NorthDiv Total		**213**	**11**	**224**	**69**	**22**	**20**	**21**	**17**	**16**	**21**	**6**	**13**	**39**	**42**	**14**	**14**	**117**	**13**	**10**	**34**	**140**	**160**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0
C	Bethesda	0.95	29.0	9.6	38.6	24.6	2	4	6	4	5	4	4	3	3	9	4	3	24	8	1	13	33	39
C	NDW	0.95	96.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	84
C	Dahlgren	0.9	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	18
C	Indian Head	0.91	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33
C	Quantico	0.92	50.0	2.7	52.7	8.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	35
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	28	41
	EFA Ches Total		**363**	**50**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**25**	**23**	**84**	**27**	**28**	**178**	**36**	**9**	**53**	**223**	**306**
M	Aviano	1.33	45.0	0.0	45.0	0.0	4	4	2	3	3	4	1	2	8	8	3	3	21	0	0	0	21	25
M	Vicenza	1.33	7.3	0.0	7.3	0.0	1	1	1	1	1	1	0	0	2	1	1	0	6	0	0	0	6	4
M	La Maddalena	1.37	0.2	0.1	0.3	5.0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	2	3
M	Sigonella	1.32	38.9	1.0	39.9	7.4	5	4	7	3	1	4	0	2	5	7	4	2	22	0	0	4	22	26
M	London	1.4	3.5	0.5	4.0	2.0	0	0	2	0	0	0	1	0	2	1	1	0	6	0	0	1	6	3
M	Rota	1.12	23.3	1.0	24.3	10.5	2	2	7	2	3	3	0	2	3	5	3	2	18	0	0	6	18	21
M	Souda Bay	0.74	5.1	0.5	5.6	1.5	1	1	2	1	1	1	0	0	2	1	1	0	7	0	0	1	7	5
M	Bahrain	1.46	5.4	0.0	5.4	3.0	1	0	2	0	0	0	1	0	2	1	1	0	7	0	0	1	7	4
M	Cairo	1.31	0.4	0.1	0.5	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M	Southern Italy	1.29	3.0	0.5	3.5	12.0	2	0	7	0	0	0	0	0	1	1	1	0	11	0	0	6	11	8
M	OICC Naples	1.29	106.0	0.0	106.0	0.1	5	8	3	6	10	8	5	5	12	16	8	5	43	0	0	0	43	48
	EFA Med Total		**238**	**4**	**242**	**42**	**21**	**20**	**33**	**17**	**19**	**21**	**8**	**13**	**38**	**42**	**24**	**14**	**143**	**0**	**0**	**22**	**143**	**149**
	LANT TOTAL		**1392**	**131**	**1523**	**363**	**111**	**136**	**136**	**114**	**102**	**143**	**60**	**86**	**204**	**286**	**112**	**95**	**726**	**85**	**33**	**181**	**842**	**1043**
P	MCBH	1.52	94.3	0.0	94.3	9.0	2.0	7	3.0	5	8.0	7	0.0	4	6	14	2	5	21	0	0	4	21	48
P	Pearl Harbor	1.47	160.0	65.0	225.0	65.1	9.0	19	30.0	16	12.0	20	4.0	12	28	39	9	13	82	23	9	32	124	150
P	Kaho'olawe	1.5	0.0	50.0	50.0	0.0	0.0	7	7.0	6	6.0	8	0.0	5	4	15	1	5	18	0	0	0	18	46
P	Marianas	1.99	76.3	14.0	80.3	26.4	3.0	7	5.0	6	9.0	7	0.0	4	12	14	3	5	32	8	1	11	41	53
P	Singapore	1.5	5.5	0.0	5.5	3.5	1.0	0	1.0	0	1.0	0	0.0	0	0	1	0	0	3	2	0	2	5	5
P	Diego Garcia	2.45	8.8	0.0	8.8	0.0	0.0	1	0.0	0	2.0	1	0.0	0	1	1	1	0	4	0	0	0	4	3
P	Johnston	2.27			0.0			0		0		0		0		0		0	0			0	0	0
P	OICC FE/Yoko	1.56	27.7	10.8	38.6	23.1	3.0	4	4.0	3	4.0	4	0.0	2	8	8	3	3	23	5	1	11	29	35
P	Sasebo	1.56	4.6	7.0	11.6	8.4	1.0	1	2.0	1	1.0	1	0.0	1	3	3	3	1	10	0	0	5	10	13
P	Okinawa	1.5	26.1	3.5	29.6	25.0	4.0	3	4.0	2	2.0	3	0.0	2	8	6	2	2	20	0	0	12	20	28
P	Atsugi	1.65	10.0	1.8	11.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	12
P	Iwakuni	1.56	7.6	0.5	8.1	4.2	1.0	1	1.0	1	0.0	1	0.0	0	3	1	1	0	6	0	0	2	6	6
P	Chinhae	1.13	0.6	0.0	0.6	0.6	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1
P	Misawa	1.64	0.3	0.1	0.4	0.6	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1
	PAC Total		**422**	**153**	**575**	**178**	**25**	**50**	**60**	**42**	**45**	**52**	**4**	**31**	**79**	**104**	**26**	**35**	**238**	**38**	**11**	**86**	**287**	**400**
SW	Barstow	1.17	18.3	2.0	20.3	1.8	1.0	2	3.0	1	3.0	2		1		4	1	1	8	2.0		1	10	12
SW	China Lake	1.26	15.5	4.0	19.5	13.8	3.0	2	7.0	1	8.0	2		1		4	1	1	19	3.0	1.0	6	23	18
SW	Coronado	1.1	36.4	3.2	39.6	6.7	3.0	4	8.0	3	1.0	4		2		7	1	2	13	2.0	2.0	3	17	26
SW	El Centro	1.14	2.0	0.5	2.5	8.0	1.0	0	3.0	0	2.0	0		0		1	0.5	0	7	1.0	0.5	4	8	5
SW	Miramar	1.1	86.2	3.0	89.2	1.0	3.0	7	6.0	6	7.0	7		4		15	4	5	20	3.0	1.0	0	24	44
SW	Camp Pendleton	1.1	141.5	9.4	150.9	2.5	10.0	10	18.0	8	26.0	11		6		21	5	7	59	6.0	3.0	1	68	64
SW	Ventura County	1.13	28.7	11.0	39.7	8.3	6.0	4	6.0	3	13.0	4		3		8	4	3	29	5.0	3.0	4	37	29
SW	Bridgeport	1.2	2.2		2.2	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	1
SW	San Diego	1.1	29.1	2.3	31.4	11.0	3.0	3	6.0	2	3.0	3		2		6	1	2	13	5.0	1.0	5	19	23
SW	Point Loma	1.1	19.1	2.5	21.6	5.3	2.0	2	6.0	2	4.0	2		1		4	3	1	15	4.0	1.0	3	20	15
SW	El Toro (closed)	1.05																	0				0	0
SW	Los Angeles	1.12	23.2	0.8	23.9	3.3	1.0	2	4.0	2	6.0	2		1		4	2	1	13	3.0	2.0	2	18	14
SW	29 Palms	1.28	35.5	2.0	37.5	3.5	2.0	3	5.0	3	7.0	3		2		6	2	2	16	1.0	1.0	2	18	21
SW	Yuma	1.12	34.2	4.0	38.2	3.3	1.0	3	2.0	3	5.0	4		2		7	1	2	9	1.0	1.0	2	11	23
	SWDiv Total		**472**	**45**	**517**	**69**	**36**	**42**	**75**	**35**	**86**	**44**	**0**	**26**	**0**	**88**	**27**	**29**	**223**	**37**	**17**	**33**	**276**	**297**
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	28	18
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7
NW	NAS Whidby Island	1.15	26.81	9.66	36.47	14.88	2	4	1	3	1	4	4	2	2	8	1	3	11	4		7	15	30
NW	Fallon	1.16	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	18
NW	Silverdale	1.11	42.22	4.37	46.59	30	5	4	0	4	2	4	3	3	3	8	2	3	15	11	1	14	27	41
	EFA NW Total		**109**	**26**	**134**	**69**	**14**	**13**	**6**	**11**	**7**	**13**	**11**	**8**	**11**	**27**	**8**	**9**	**67**	**32**	**3**	**33**	**92**	**114**
CW	Concord	1.18																						
CW	San Francisco	1.2	45.0	1.7	46.7	0.1	1.0	4	3.0	3	4.0	4	1.0	2	3	8	0	3	12	0		0	12	24
CW	Lemoore	1.05	49.4	7.0	56.4	3.1	4.0	5	4.0	4	2.5	6	0.5	3	5	11	3	4	18	0		2	18	35
CW	Monterey	1.17	11.8	2.1	13.9	5.2	1.0	1	5.0	1	1.5	1	0.5	1	2	3	0	1	10	0		2	10	10
CW	Travis	1.18	41.2	1.7	42.9	0.0	3.0	4	4.0	3	3.0	4	1.0	2	3	8	4	3	18	0		0	18	23
	EFA CW Total		**147**	**12**	**160**	**8**	**9**	**14**	**16**	**12**	**11**	**16**	**3**	**9**	**13**	**29**	**7**	**10**	**59**	**0**		**4**	**59**	**93**
	SWEST TOTAL		**728**	**83**	**811**	**146**	**69**	**69**	**97**	**58**	**104**	**72**	**14**	**43**	**24**	**144**	**42**	**48**	**339**	**69**		**70**	**427**	**503**

S	Albany, GA	0.78	6.5	1.0	7.5	2.0	1	1	2	1	1	1	0	1	3	2	2	1	8	1	1	1	11	6
S	Atlanta, GA	0.81	8.8	0.1	8.9	0.4	0	1	1	1	1	1	0	1	2	2	0.5	1	5	0	0.5	0	5	5
S	Barksdale, LA	0.83	9.5	0.0	9.5	0.0	2	1	1	1	0	1	0	1	3	2	1	1	7	0	0	0	7	6
S	Beaufort, SC	1.04	55.1	1.8	56.9	9.9	2	5	4	4	4	5	1	3	8	11	3	4	23	3	1	5	27	37
S	Charleston, SC	0.89	37.7	5.0	42.7	19.0	3	4	5	4	7	5	0	3	11	9	2	3	28	3	1	10	32	37
S	Fort Worth, TX	0.89	29.6	2.1	31.7	1.3	2	3	3	3	3	3	0	2	4	7	2	2	14	1	1	1	16	20
S	Gulfport, MS	0.92	70.0	0.3	70.3	4.5	3	6	3	5	8	7	1	4	16	14	6	5	35	1	1	2	37	43
S	Jacksonville, FL	0.81	63.7	24.6	88.3	49.2	6	10	11	8	8	10	3	6	22	21	10	7	60	15	4	25	79	88
S	Key West, FL	1.1	24.3	0.9	25.2	6.1	1	2	3	2	3	2	0	1	6	5	2	2	15	2	1	3	18	17
S	Kings Bay FSC, GA	0.86	0.9	3.5	4.4	34.0	0	1	0	1	0	1	0	0	0	1	0	0	0	8	3	17	9	21
S	Memphis, TN	0.81	24.0	1.0	25.0	15.0	2	2	4	2	3	3	0	2	4	6	3	2	16	1	1	8	18	23
S	Meridian, MS	0.95	10.5	0.4	10.9	1.8	1	1	2	1	1	1	0	1	3	2	1	1	8	1	0	1	9	7
S	New Orleans, LA	0.95	24.6	1.6	26.2	6.4	3	2	3	2	3	3	0	2	7	5	1	2	17	1	1	3	18	19
S	Panama City, FL	0.82	4.6	0.6	5.2	3.2	1	1	1	0	1	1	0	0	1	1	1	0	5	1	0	2	6	5
S	Pensacola, FL	0.84	37.8	8.5	46.3	11.4	3	5	5	4	4	5	0	3	9	11	3	4	24	2	1	6	27	38
S	South Texas, TX	0.9	32.1	1.1	33.2	21.0	4	3	4	3	4	3	0	2	8	7	3	2	23	2	3	11	28	31
	SouthDivTotal		**440**	**63**	**492**	**185**	**34**	**49**	**52**	**41**	**49**	**61**	**6**	**31**	**108**	**103**	**41**	**34**	**289**	**40**	**20**	**96**	**348**	**405**
MW	Crane, IN	1.01	22.5	1.0	23.5	5.0	3	2	3	2	5	2	1	1	4	4	0.8	1	17	3	0.2	2	20	16
MW	Great Lakes, IL	1.26	99.0	2.0	101.0	6.0	6	7	5.5	6	5	7	3	4	10	14	1.5	5	31	0.5	0.5	3	32	45
	EFA MidWest Total		**122**	**3**	**125**	**11**	**9**	**9**	**9**	**7**	**10**	**9**	**4**	**6**	**14**	**19**	**2**	**6**	**48**	**4**	**1**	**5**	**62**	**61**
	SOUTH TOTAL		**661**	**56**	**617**	**196**	**43**	**58**	**61**	**49**	**59**	**61**	**9**	**36**	**122**	**122**	**43**	**41**	**336**	**44**	**20**	**100**	**400**	**466**
	GRAND TOTAL		**3103**	**422**	**3626**	**883**	**238**	**312**	**363**	**262**	**310**	**328**	**87**	**197**	**429**	**656**	**221**	**219**	**1638**	**235**		**437**	**1956**	**2412**
	CONUS		2289.58				179		253		237		75		287		159		1200					
	LANT						15		19		14		8		28		15		100			85		
	PAC						11		25		18		2		33		11		100			57		
	SWEST						17		28		31		4		7		12		100			98		
	SOUTH						13		18		18		3		36		13		100			84		

TypeI Factor	1.8	OS LANT	1.15	MII	6.3	16 %	
TypeII Factor	1	OS PAC	1.15	K	7.5	13 %	
Service Factor	2	$70M	4	T	10.0	10 %	
Afc Factor	2	FACTOR		Q	3.0	33 %	
Afs Factor	3			A	9.0	11 %	
				Kpm	6.0	17 %	100 %

Nov-00

Div	Field Office	ACF	FY01 Type I WIP $M	FY01 Type II WIP $M	FY01 Total WIP $M	FY01 Serv WIP $M	MIL		Construction Civilian/CASU											Service			Grand Total Staff	Total Algo Staff	Consruction CASU				
							Total Mil	Algo	K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	K	A	Algo			K	K PM	T	Q	A
L	Norfolk	0.92	110.0	5.0	115.0	11.0	6	9	11	7	8	9	1	6	24	19	9	6	59	6	4	6	69	62				1	
L	NNSY	0.92	60.0	25.0	65.0	25.0	3	10	13	8	8	10	1	6	15	20	5	7	45	8	3	13	56	74					1
L	Cherry Point	0.94	38.3	2.1	40.4	15.0	4	4	6	3	3	4		2	8	8	5	3	26	2		6	28	32				1	
L	Jacksonville, NC	0.94	110.0	2.0	112.0	15.0	6	8	6	7	5	9		5	20	17	7	6	44	3		6	47	60				4	2
L	Little Creek	0.92	16.9	3.1	20.0	3.5	1	2	3	2	1	2		1	8	4	4	1	17	1	1	2	19	15	1				
L	Oceana	0.92	69.0	10.0	79.0	12.0	3	8	7	7	2	8	2	5	8	17	1	6	23	3	0	6	26	57	1				
L	Yorktown	0.92	20.0	6.1	26.1	4.3	2	3	4	2	1	3		2	6	6	3	2	16	3	1	2	20	20					
L	Azores	1.34	7.0	0.0	7.0	0.0		1		1	1	1		0		1	1	0	2			0	2	4					
L	Gitmo	1.35	10.5	6.0	16.5	14.0	2	2	1	2	1	2		1	3	4	4	1	11	3	1	7	15	19					3
L	Argentia	1.26			0.0			0	1	0		0		0		0		0	1			0		0					
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0					
L	Iceland	3	36.0	4.1	40.1	24.0	3	2	1	2	2	2		1	3	5	4	2	13	2	1	8	16	22					2
L	Roosevelt Roads	1.3	100.0	3.0	103.0	26.0	8	8	4	7	5	8		5	9	16	4	5	30	5	3	14	38	63				4	2
	LANTOPS Total		**678**	**66**	**644**	**160**	**38**	**66**	**67**	**47**	**37**	**69**	**4**	**35**	**104**	**118**	**47**	**39**	**287**	**36**	**14**	**73**	**336**	**426**	**2**	**0**	**0**	**10**	**10**
N	New London	1.04	39.0	2.1	41.1	18.5	4	4	4	3	3	4	1	2	7	8	3	3	22	1	2	9	25	33				1	
N	Brunswick	0.95	17.1	0.9	18.0	1.7	2	2	2	1	2	2	1	1	3	4	2	1	12	0	1	1	13	12				1	
N	North Maine	0.95	6.4	0.3	6.7	0.7	0	1	1	1	1	1	0	0	2	1	0	0	4	0	1	0	5	4					
N	Portsmouth	1.04	17.6	0.9	18.5	5.4	2	2	3	1	2	2	1	1	3	3	1	1	12	0	1	3	13	13					
N	Earle	1.21	16.9	0.9	17.8	6.3	2	1	1	1	1	2	0	1	5	3	1	1	10	1	1	3	12	12					
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	1	1	9	2	1	3	12	11					
N	East PA	1.06	24.0	1.3	25.3	4.9	3	2	2	2	1	2	1	1	3	5	1	2	11	3	0	2	14	17					
N	Mechanicsburg	0.94	15.7	0.8	16.5	3.9	1	2	1	1	1	2	1	1	3	3	1	1	8	1	1	2	10	12			1		
N	Philadelphia	1.08	12.7	0.7	13.4	7.9	2	1	2	1	1	1	0	1	3	2	1	1	9	3	0	4	12	11					
N	Newport	1.07	48.6	2.6	51.2	13.8	4	5	5	4	2	5	1	3	7	10	3	3	22	2	2	7	26	35					2
	NorthDiv Total		**213**	**11**	**224**	**69**	**22**	**20**	**21**	**17**	**16**	**21**	**6**	**13**	**39**	**42**	**14**	**14**	**117**	**13**	**10**	**34**	**140**	**160**	**0**	**0**	**1**	**2**	**2**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0					
C	Bethesda	0.95	29.0	9.6	38.5	24.6	2	4	6	4	5	4	4	3	3	9	4	3	24	8	1	13	33	39		1			
C	NDW	0.95	96.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	64		2	1		
C	Dahlgren	0.9	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	19			3		1
C	Indian Head	0.91	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23			2		
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33			5		
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33					1
C	Quantico	0.92	50.0	2.7	52.7	6.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	36				1	2
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	29	41				3	
	EFA Ches Total		**363**	**60**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**26**	**23**	**84**	**27**	**26**	**178**	**36**	**9**	**53**	**223**	**306**	**0**	**3**	**11**	**4**	**4**
M	Aviano	1.33	45.0	0.0	45.0	0.0	4	4	2	3	3	4	1	2	8	8	3	3	21	0	0	0	21	25			1	3	1
M	Vicenza	1.33	7.3	0.0	7.3	0.0	1	1	1	1	1	1	0	0	2	1	1	0	6	0	0	0	6	4					
M	La Maddalena	1.37	0.2	0.1	0.3	5.0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	2	3					
M	Sigonella	1.32	38.9	1.0	39.9	7.4	5	4	7	3	1	4	0	2	5	7	4	2	22	0	0	4	22	26					
M	London	1.4	3.5	0.5	4.0	2.0	0	0	2	0	0	0	1	0	2	1	1	0	6	0	0	1	6	3					
M	Rota	1.12	23.3	1.0	24.3	10.5	2	2	7	2	3	3	0	2	3	5	3	2	18	0	0	6	18	21				1	
M	Souda Bay	0.74	5.1	0.5	5.6	1.5	1	1	2	1	1	1	0	0	2	1	1	0	7	0	0	1	7	5				1	
M	Bahrain	1.46	5.4	0.0	5.4	3.0	1	0	2	0	0	0	1	0	2	1	1	0	7	0	0	1	7	4				1	1
M	Cairo	1.31	0.4	0.1	0.5	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
M	Southern Italy	1.29	3.0	0.5	3.5	12.0	2	0	7	0	0	0	0	0	1	1	1	0	11	0	0	6	11	8					
M	OICC Naples	1.29	106.0	0.0	106.0	0.1	5	8	3	5	10	8	5	5	12	16	8	5	43	0	0	0	43	48			1	9	5
	EFA Med Total		**236**	**4**	**242**	**42**	**21**	**20**	**33**	**17**	**19**	**21**	**8**	**13**	**38**	**42**	**24**	**14**	**143**	**0**	**0**	**22**	**143**	**149**	**0**	**0**	**2**	**16**	**7**
	LANT TOTAL		**1392**	**131**	**1623**	**363**	**111**	**136**	**136**	**114**	**102**	**143**	**60**	**86**	**204**	**296**	**112**	**95**	**725**	**85**	**33**	**181**	**842**	**1043**	**2**	**3**	**14**	**31**	**23**
P	MCBH	1.52	94.3	0.0	94.3	9.0	2.0	7	3.0	5	8.0	7	0.0	4	6	14	2	5	21	0	0	4	21	46					1
P	Pearl Harbor	1.47	160.0	65.0	225.0	65.1	9.0	19	30.0	16	12.0	20	4.0	12	28	39	9	13	92	23	9	32	124	150					
P	Kaho'olawe	1.5	0.0	50.0	50.0	0.0	0.0	7	7.0	6	6.0	8	0.0	5	4	15	1	5	18	0	0	0	18	46					
P	Marianas	1.99	76.3	14.0	90.3	26.4	3.0	7	5.0	6	9.0	7	0.0	4	12	14	3	5	32	8	1	11	41	53					
P	Singapore	1.5	5.5	0.0	5.5	3.5	1.0	0	1.0	0	1.0	0	0.0	0	0	1	0	0	3	2	0	2	5	5					
P	Diego Garcia	2.45	8.8	0.0	8.8	0.0	0.0	1	0.0	0	2.0	1	0.0	0	1	1	1	0	4	0	0	0	4	3					
P	Johnston	2.27			0.0			0		0		0		0		0		0	0			0	0	0					
P	OICC FE/Yoko	1.56	27.7	10.9	38.6	23.1	3.0	4	4.0	3	4.0	4	0.0	2	9	8	3	3	23	5	1	11	29	35					
P	Sasebo	1.56	4.6	7.0	11.6	9.4	1.0	1	2.0	1	1.0	1	0.0	1	3	3	3	1	10	0	0	5	10	13					
P	Okinawa	1.5	26.1	3.5	29.6	25.0	4.0	3	4.0	2	2.0	3	0.0	2	8	6	2	2	20	0	0	12	20	29					
P	Atsugi	1.65	10.0	1.8	11.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	12					
P	Iwakuni	1.56	7.6	0.5	8.1	4.2	1.0	1	1.0	1	0.0	1	0.0	0	3	1	1	0	6	0	0	2	6	6					
P	Chinhae	1.07	0.6	0.0	0.6	0.6	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1					
P	Misawa	1.64	0.3	0.1	0.4	0.8	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1					
	PAC Total		**422**	**163**	**675**	**178**	**25**	**60**	**60**	**42**	**45**	**62**	**4**	**31**	**79**	**104**	**25**	**35**	**238**	**38**	**11**	**86**	**287**	**400**	**0**	**0**	**0**	**0**	**1**
SW	Barstow	1.17	18.3	2.0	20.3	1.8	1.0	2	3.0	1	3.0	2		1		4	1	1	8	2.0		1	10	12					
SW	China Lake	1.26	15.5	4.0	19.5	13.8	3.0	2	7.0	1	8.0	2		1		4	1	1	19	3.0	1.0	6	23	18					
SW	Coronado	1.1	36.4	3.2	39.6	6.7	3.0	4	8.0	3	1.0	4		2		7	1	2	13	2.0	2.0	3	17	26					
SW	El Centro	1.14	2.0	0.5	2.5	8.0	1.0	0	3.0	0	2.0	0		0		1	0.5	0	7	1.0	0.5	4	8	5					
SW	Miramar	1.1	66.2	3.0	69.2	1.0	3.0	7	6.0	6	7.0	7		4		15	4	6	20	3.0	1.0	0	24	44					
SW	Camp Pendleton	1.1	141.5	9.4	150.9	2.5	10.0	10	18.0	8	20.0	11	6.0	6		21	5	7	59	6.0	3.0	1	68	64			4.0		2
SW	Ventura County	1.13	28.7	11.0	39.7	6.3	6.0	4	6.0	3	13.0	4		3		8	4	3	29	5.0	3.0	4	37	29					
SW	Bridgeport	1.2	2.2		2.2	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	1					
SW	San Diego	1.1	29.1	2.3	31.4	11.0	3.0	3	6.0	2	3.0	3		2		6	1	2	13	5.0	1.0	5	19	23					
SW	Point Loma	1.1	19.1	2.5	21.6	5.3	2.0	2	6.0	2	4.0	2		1		4	3	1	15	4.0	1.0	3	20	15					
SW	El Toro (closed)	1.05																	0				0	0					
SW	Los Angeles	1.12	23.2	0.8	23.9	3.3	1.0	2	4.0	2	6.0	2		1		4	2	1	13	3.0	2.0	2	18	14					
SW	29 Palms	1.29	35.5	2.0	37.5	3.5	2.0	3	5.0	3	7.0	3		2		6	2	2	16	1.0	1.0	2	18	21			1.0		
SW	Yuma	1.12	34.2	4.0	38.2	3.3	1.0	3	2.0	3	5.0	4		2		7	1	2	9	1.0	1.0	2	11	23			1.0		
	SWDiv Total		**472**	**46**	**517**	**69**	**36**	**42**	**76**	**36**	**80**	**44**	**6**	**28**	**0**	**66**	**27**	**29**	**223**	**37**	**17**	**33**	**276**	**297**	**0**	**0**	**6**	**0**	**2**
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	26	18					
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7					
NW	NAS Whidby Island	1.15	26.81	9.66	36.47	14.66	2	4	1	3	1	4	4	2	2	8	1	3	11	4		7	15	30					
NW	Fallon	1.16	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	18					
NW	Silverdale	1.11	42.22	4.37	46.59	30	5	4	0	4	2	4	3	3	3	9	2	3	15	11	1	14	27	41					
	EFA NW Total		**109**	**25**	**134**	**69**	**14**	**13**	**6**	**11**	**7**	**13**	**11**	**8**	**11**	**27**	**8**	**9**	**67**	**32**	**3**	**33**	**92**	**114**	**0**	**0**	**0**	**0**	**0**
CW	Concord	1.16																											
CW	San Francisco	1.2	45.0	1.7	46.7	0.1	1.0	4	3.0	3	4.0	4	1.0	2	3	8	0	3	12	0		0	12	24					
CW	Lemoore	1.05	49.4	7.0	56.4	3.1	4.0	5	4.0	4	2.5	6	0.5	3	5	11	3	4	19	0		2	19	35					
CW	Monterey	1.17	11.8	2.1	13.9	5.2	1.0	1	5.0	1	1.5	1	0.5	1	2	3	0	1	10	0		2	10	10					
CW	Travis	1.18	41.2	1.7	42.9	0.0	3.0	4	4.0	3	3.0	4	1.0	2	3	8	4	3	18	0		0	18	23					
	EFA CW Total		**147**	**12**	**160**	**8**	**9**	**14**	**16**	**12**	**11**	**16**	**3**	**9**	**13**	**29**	**7**	**10**	**69**	**0**		**4**	**69**	**93**	**0**	**0**	**0**	**0**	**0**
	SWEST TOTAL		**728**	**83**	**811**	**146**	**59**	**69**	**97**	**58**	**96**	**72**	**20**	**43**	**24**	**144**	**42**	**48**	**339**	**69**		**70**	**427**	**503**	**0**	**0**	**6**	**0**	**2**

S	Albany, GA	0.79	6.5	1.0	7.5	2.0	1	1	2	1	1	1	0	1	3	2	2	1	9	1	1	1	11	6				1	
S	Atlanta, GA	0.91	8.8	0.1	8.9	0.4	0	1	1	1	1	1	0	1	2	2	0.5	1	5	0	0.5	0	5	5				1	
S	Barksdale, LA	0.83	9.5	0.0	9.5	0.0	2	1	1	1	0	1	0	1	3	2	1	1	7	0	0	0	7	6					
S	Beaufort, SC	1.04	55.1	1.8	56.9	9.9	2	5	4	4	4	5	1	3	9	11	3	4	23	3	1	5	27	37		1		3	2
S	Charleston, SC	0.89	37.7	5.0	42.7	19.0	3	4	5	4	7	5	0	3	11	9	2	3	28	3	1	10	32	37		1		1	
S	Fort Worth, TX	0.89	29.6	2.1	31.7	1.3	2	3	3	3	3	3	0	2	4	7	2	2	14	1	1	1	16	20				1	
S	Gulfport, MS	0.92	70.0	0.3	70.3	4.5	3	6	3	5	6	7	1	4	16	14	6	5	35	1	1	2	37	43			1	7	5
S	Jacksonville, FL	0.91	63.7	24.6	88.3	49.2	6	10	11	8	8	10	3	6	22	21	10	7	60	15	4	25	79	88		1		1	2
S	Key West, FL	1.1	24.3	0.9	25.2	6.1	1	2	3	2	3	2	0	1	6	5	2	2	15	2	1	3	18	17				5	1
S	Kings Bay FSC, GA	0.96	0.9	3.5	4.4	34.0	0	1	0	1	0	1	0	0	0	1	0	0	0	6	3	17	9	21					
S	Memphis, TN	0.91	24.0	1.0	25.0	15.0	2	2	4	2	3	3	0	2	4	5	3	2	16	1	1	8	18	23		1		2	3
S	Meridian, MS	0.95	10.5	0.4	10.9	1.8	1	1	2	1	1	1	0	1	3	2	1	1	8	1	0	1	9	7				3	1
S	New Orleans, LA	0.95	24.6	1.6	26.2	6.4	3	2	3	2	3	3	0	2	7	5	1	2	17	1	1	3	19	19				1	1
S	Panama City, FL	0.82	4.6	0.6	5.2	3.2	1	1	1	0	1	1	0	0	1	1	1	0	5	1	0	2	6	5					1
S	Pensacola, FL	0.84	37.8	8.5	46.3	11.4	3	5	5	4	4	6	0	3	9	11	3	4	24	2	1	6	27	38				1	
S	South Texas, TX	0.9	32.1	1.1	33.2	21.0	4	3	4	3	4	3	0	2	6	7	3	2	23	2	3	11	28	31					
	SouthDivTotal		**440**	**63**	**492**	**185**	**34**	**49**	**62**	**41**	**49**	**61**	**6**	**31**	**108**	**103**	**41**	**34**	**289**	**40**	**20**	**95**	**348**	**406**	**0**	**4**	**1**	**27**	**16**
MW	Crane, IN	1.01	22.5	1.0	23.5	5.0	3	2	3	2	5	2	1	1	4	4	0.8	1	17	3	0.2	2	20	16					
MW	Great Lakes, IL	1.26	99.0	2.0	101.0	6.0	6	7	5.5	6	5	7	3	4	10	14	1.5	5	31	0.5	0.5	3	32	45					2
	EFA MidWest Total		**122**	**3**	**125**	**11**	**9**	**9**	**9**	**7**	**10**	**9**	**4**	**6**	**14**	**19**	**2**	**6**	**48**	**4**	**1**	**6**	**62**	**61**	**0**	**0**	**0**	**0**	**2**
	SOUTH TOTAL		**661**	**66**	**617**	**196**	**43**	**58**	**61**	**49**	**59**	**61**	**9**	**36**	**122**	**122**	**43**	**41**	**336**	**44**	**20**	**100**	**400**	**466**	**0**	**4**	**1**	**27**	**16**
	GRAND TOTAL		**3103**	**422**	**3525**	**663**	**238**	**312**	**363**	**262**	**304**	**328**	**93**	**197**	**429**	**666**	**221**	**219**	**1638**	**235**		**437**	**1966**	**2412**	**2**	**7**	**21**	**68**	**44**
	CONUS		2269.58				179		254		231		81		297		159		1201										
							total		total		total		total		total		total		total			total					CASU		
	LANT						15		19		14		8		28		15		100			65			0	0	2	4	3
	PAC						11		25		19		2		33		11		100			57			0	0	0	0	0
	SWEST						17		28		29		6		7		12		100			98			0	0	2	0	1
	SOUTH						13		18		18		3		36		13		100			64			0	1	0	8	5

TypeI Factor	1.0	OS LANT	1.15	Mil	6.3	16 %	Kpm	6.0	17 %
TypeII Factor	1	OS PAC	1.15	K	7.5	13 %			100 %
Service Factor	2	$70M	4	T	10.0	10 %			
Afc Factor	2	FACTOR		Q	3.0	33 %			
Als Factor	3			A	9.0	11 %			

Div	Field Office	ACF	FY01 Type I WIP $M	FY01 Type II WIP $M	FY01 Total WIP $M	FY01 Serv WIP $M	MIL Total Mil	MIL Algo	Construction Civilian/CASU K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	Service K	Service A	Service Algo	Grand Total Staff	Total Algo Staff	Consruction CASU K	K PM	T	Q	A
L	Norfolk	0.92	110.0	5.0	115.0	11.0	6	9	11	7	8	9	1	6	24	19	9	6	59	6	4	6	69	62				1	
L	NNSY	0.92	60.0	25.0	85.0	25.0	3	10	13	8	8	10	1	6	15	20	5	7	45	8	3	13	56	74					1
L	Cherry Point	0.94	38.3	2.1	40.4	15.0	4	4	6	3	3	4		2	8	6	5	3	26	2		8	28	32				1	
L	Jacksonville, NC	0.94	110.0	2.0	112.0	15.0	6	8	6	7	5	9		5	20	17	7	6	44	3		8	47	60				4	2
L	Little Creek	0.92	16.9	3.1	20.0	3.5	1	2	3	2	1	2		1	8	4	4	1	17	1	1	2	19	15	1				
L	Oceana	0.92	69.0	10.0	79.0	12.0	3	8	7	7	2	8	2	5	8	17	1	6	23	3	0	6	26	57	1				
L	Yorktown	0.92	20.0	6.1	26.1	4.3	2	3	4	2	1	3		2	6	6	3	2	16	3	1	2	20	20					
L	Azores	1.34	7.0	0.0	7.0	0.0		1		1	1	1		0		1	1	0	2			0	2	4					
L	Gitmo	1.35	10.5	6.0	16.5	14.0	2	2	1	2	1	2		1	3	4	4	1	11	3	1	7	15	19					3
L	Argentia	1.26			0.0			0	1	0		0		0		0		0	1			0		0					
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0					
L	Iceland	3	36.0	4.1	40.1	24.0	3	2	1	2	2	2		1	3	5	4	2	13	2	1	8	16	22					2
L	Roosevelt Roads	1.3	100.0	3.0	103.0	25.0	8	8	4	7	5	8		5	9	16	4	5	30	5	3	14	38	63				4	2
	LANTOPS Total		**578**	**66**	**644**	**150**	**38**	**56**	**57**	**47**	**37**	**59**	**4**	**36**	**104**	**118**	**47**	**39**	**287**	**36**	**14**	**73**	**336**	**428**	**2**	**0**	**0**	**10**	**10**
N	New London	1.04	39.0	2.1	41.1	18.5	4	4	4	3	3	4	1	2	7	8	3	3	22	1	2	9	25	33				1	
N	Brunswick	0.95	17.1	0.9	18.0	1.7	2	2	2	1	2	2	1	1	3	4	2	1	12	0	1	1	13	12				1	
N	North Maine	0.95	6.4	0.3	6.7	0.7	0	1	1	1	1	1	0	0	2	1	0	0	4	0	1	0	5	4					
N	Portsmouth	1.04	17.6	0.9	18.5	5.4	2	2	3	1	2	2	1	1	3	3	1	1	12	0	1	3	13	13					
N	Earle	1.21	16.9	0.9	17.8	6.3	2	1	1	1	1	2	0	1	5	3	1	1	10	1	1	3	12	12					
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	1	1	9	2	1	3	12	11					
N	East PA	1.06	24.0	1.3	25.3	4.9	3	2	2	2	1	2	1	1	3	5	1	2	11	3	0	2	14	17					
N	Mechanicsburg	0.94	15.7	0.8	16.5	3.9	1	2	1	1	1	2	1	1	3	3	1	1	8	1	1	2	10	12			1		
N	Philadelphia	1.08	12.7	0.7	13.4	7.9	2	1	2	1	1	1	0	1	3	2	1	1	9	3	0	4	12	11					
N	Newport	1.07	48.6	2.6	51.2	13.8	4	5	5	4	2	5	1	3	7	10	3	3	22	2	2	7	26	35					2
	NorthDiv Total		**213**	**11**	**224**	**69**	**22**	**20**	**21**	**17**	**15**	**21**	**6**	**13**	**39**	**42**	**14**	**14**	**117**	**13**	**10**	**34**	**140**	**160**	**0**	**0**	**1**	**2**	**2**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0					
C	Bethesda	0.95	29.0	9.6	38.6	24.6	2	4	6	4	5	4	4	3	3	9	4	3	24	8	1	13	33	39		1			
C	NDW	0.95	96.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	84		2	1		
C	Dahlgren	0.9	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	19			3		1
C	Indian Head	0.91	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23			2		
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33			5		
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33					1
C	Quantico	0.92	50.0	2.7	52.7	6.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	36				1	2
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	29	41				3	
	EFA Ches Total		**363**	**50**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**25**	**23**	**84**	**27**	**28**	**178**	**36**	**9**	**53**	**223**	**306**	**0**	**3**	**11**	**4**	**4**
M	Aviano	1.33	45.0	0.0	45.0	0.0	4	4	2	3	3	4	1	2	8	8	3	3	21	0	0	0	21	25			1	3	1
M	Vicenza	1.33	7.3	0.0	7.3	0.0	1	1	1	1	1	1	0	0	2	1	1	0	6	0	0	0	6	4					
M	La Maddalena	1.37	0.2	0.1	0.3	5.0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	2	3					
M	Sigonella	1.32	38.9	1.0	39.9	7.4	5	4	7	3	3	4	0	2	5	7	4	2	22	0	0	4	22	26					
M	London	1.4	3.5	0.5	4.0	2.0	0	0	2	0	0	0	1	0	2	1	1	0	6	0	0	1	6	3					
M	Rota	1.12	23.3	1.0	24.3	10.5	2	2	7	2	3	3	0	2	3	5	3	2	18	0	0	6	18	21				1	
M	Souda Bay	0.74	5.1	0.5	5.6	1.5	1	1	2	1	1	1	0	0	2	1	1	0	7	0	0	1	7	5				1	
M	Bahrain	1.46	5.4	0.0	5.4	3.0	1	0	2	0	0	0	1	0	2	1	1	0	7	0	0	1	7	4				1	1
M	Cairo	1.31	0.4	0.1	0.5	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
M	Southern Italy	1.29	3.0	0.5	3.5	12.0	2	0	7	0	0	0	0	0	1	1	1	0	11	0	0	6	11	8					
M	OICC Naples	1.29	106.0	0.0	106.0	0.1	5	8	3	6	10	8	5	5	12	16	8	5	43	0	0	0	43	48			1	9	5
	EFA Med Total		**238**	**4**	**242**	**42**	**21**	**20**	**33**	**17**	**19**	**21**	**8**	**13**	**38**	**42**	**24**	**14**	**143**	**0**	**0**	**22**	**143**	**149**	**0**	**0**	**2**	**15**	**7**
	LANT TOTAL		**1392**	**131**	**1523**	**363**	**111**	**136**	**136**	**114**	**102**	**143**	**60**	**86**	**204**	**286**	**112**	**95**	**725**	**85**	**33**	**181**	**842**	**1043**	**2**	**3**	**14**	**31**	**23**
P	MCBH	1.52	61.9	0.0	61.9	8.8	2.0	5	4.0	4	8.0	5	0.0	3	8	10	2	3	24	0	0	4	24	36				1	1
P	Pearl Harbor	1.47	160.0	65.0	225.0	65.1	11.0	19	33.0	16	14.0	20	4.0	12	30	39	7	13	99	25	4	32	128	150					
P	Kaho'olawe	1.5	0.0	50.0	50.0	0.0	0.0	7	7.0	6	6.0	8	0.0	5	3	15	1	5	17	0	0	0	17	46					
P	Marianas	1.99	81.9	14.1	96.0	50.8	3.0	7	5.0	6	9.0	7	0.0	4	12	14	3	5	32	8	1	22	41	65					
P	Singapore	1.5	5.5	0.0	5.5	3.5	1.0	0	1.0	0	1.0	0	0.0	0	0	1	0	0	3	2	0	2	5	5					
P	Diego Garcia	2.45	12.8	0.0	12.8	0.0	0.0	1	0.0	1	2.0	1	0.0	0	1	2	1	1	4	0	0	0	4	5					
P	Thailand	1.08	5.1	0.1	5.2	0.4	0.0	1	1.0	0	0.0	1	0.0	0	0	1	0	0	1	0	0	0	1	3					
P	OICC FE/Yoko	1.56	27.7	10.9	38.6	23.1	3.0	4	4.0	3	3.0	4	0.0	2	9	8	3	3	22	5	1	11	28	35					
P	Sasebo	1.56	4.6	7.0	11.6	9.4	1.0	1	2.0	1	1.0	1	0.0	1	3	3	4	1	11	0	0	5	11	13					
P	Okinawa	1.5	24.5	4.5	29.0	28.0	4.0	3	5.0	2	2.0	3	0.0	2	8	6	2	2	21	0	0	14	21	31					
P	Atsugi	1.65	10.0	1.8	11.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	12					
P	Iwakuni	1.56	6.6	0.5	7.1	4.2	1.0	1	1.0	0	0.0	1	0.0	0	3	1	1	0	6	0	0	2	6	6					
P	Chinhae	1.07	1.0	0.0	1.0	0.2	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1					
P	Misawa	1.64	0.3	0.1	0.4	0.8	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1					
	PAC Total		**402**	**154**	**556**	**205**	**27**	**49**	**66**	**41**	**46**	**51**	**4**	**31**	**82**	**103**	**24**	**34**	**249**	**40**	**6**	**98**	**295**	**408**	**0**	**0**	**0**	**1**	**1**
SW	Barstow	1.17	21.2	2.2	23.4	1.8	1.0	2	3.0	2	3.0	2		1		4	1	1	8	2.0		1	10	14					
SW	China Lake	1.26	16.9	3.0	19.9	13.5	3.0	2	6.0	1	7.0	2		1		4	2	1	18	2.0	1.0	6	21	17					1
SW	Coronado	1.16	37.7	4.3	42.0	6.3	3.0	4	8.0	3	4.0	4		2		8	2	3	17	2.0	2.0	3	21	26					
SW	El Centro	1.14	7.2	0.7	7.9	9.1	1.0	1	2.0	1	2.0	1		0		1	0.5	0	6	1.0	0.5	4	7	9					
SW	Miramar	1.1	22.4	22.7	45.1	1.0	3.0	5	6.0	4	7.0	6		3		11	4	4	20	3.0	1.0	0	24	34					2
SW	Camp Pendleton	1.1	138.5	12.4	150.9	2.5	9.0	10	18.0	9	21.0	11	0.0	7	5	22	7	7	60	6.0	2.0	1	68	67				5	2
SW	Ventura County	1.13	25.2	11.0	36.2	8.3	3.0	4	6.0	3	13.0	4		2		8	4	3	26	4.0	3.0	4	33	28					
SW	Bridgeport	1.2	2.1		2.1	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	1					
SW	San Diego	1.16	29.1	2.3	31.4	11.0	3.0	3	6.0	2	2.0	3		2		6	1	2	12	5.0	1.0	5	18	22					
SW	Point Loma	1.16	23.7	2.5	26.2	6.1	2.0	2	6.0	2	4.0	2		1		5	3	2	15	4.0	1.0	3	20	17					
SW	El Toro (closed)	1.05																	0				0	0					
SW	Los Angeles	1.12	17.6	0.6	18.2	3.3	1.0	2	4.0	1	6.0	2		1		3	2	1	13	3.0	2.0	2	18	11					
SW	29 Palms	1.29	47.0	2.0	49.0	4.0	2.0	4	4.0	3	5.0	4		2	1	8	2	3	14	1.0	1.0	2	16	26				1	
SW	Yuma	1.12	34.2	4.0	38.2	3.3	1.0	3	1.0	3	3.0	4		2	2	7	1	2	6	1.0	1.0	2	10	23				2	
	SWDiv Total		**423**	**68**	**491**	**71**	**32**	**42**	**71**	**35**	**78**	**44**	**0**	**26**	**8**	**87**	**31**	**29**	**219**	**35**	**16**	**33**	**269**	**297**	**0**	**0**	**0**	**8**	**5**
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	26	18					
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7					
NW	NAS Whidby Island	1.15	26.81	9.66	36.47	14.88	2	4	1	3	1	4	4	2	2	8	1	3	11	4		7	15	30					
NW	Fallon	1.16	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	18					
NW	Silverdale	1.11	42.22	4.37	46.59	30	5	4	0	4	2	4	3	3	3	9	2	3	15	11	1	14	27	41					
	EFA NW Total		**109**	**25**	**134**	**69**	**14**	**13**	**6**	**11**	**7**	**13**	**11**	**8**	**11**	**27**	**8**	**9**	**57**	**32**	**3**	**33**	**92**	**114**	**0**	**0**	**0**	**0**	**0**
CW	Concord	1.16																											
CW	San Francisco	1.2	45.0	1.7	46.7	0.1	1.0	4	3.0	3	4.0	4	1.0	2	3	8	0	3	12	0		0	12	24					
CW	Lemoore	1.05	49.4	7.0	56.4	3.1	4.0	5	4.0	4	2.5	6	0.5	3	5	11	3	4	19	0		2	19	35					
CW	Monterey	1.17	11.8	2.1	13.9	5.2	1.0	1	5.0	1	1.5	1	0.5	1	2	3	0	1	10	0		2	10	10					
CW	Travis	1.18	41.2	1.7	42.9	0.0	3.0	4	4.0	3	3.0	4	1.0	2	3	8	4	3	18	0		0	18	23					
	EFA CW Total		**147**	**13**	**160**	**8**	**9**	**14**	**16**	**12**	**11**	**16**	**3**	**9**	**13**	**29**	**7**	**10**	**59**	**0**		**4**	**59**	**93**	**0**	**0**	**0**	**0**	**0**
	SWEST TOTAL		**679**	**106**	**785**	**148**	**55**	**69**	**93**	**57**	**96**	**72**	**14**	**43**	**32**	**144**	**46**	**48**	**335**	**67**		**70**	**420**	**503**	**0**	**0**	**0**	**8**	**5**

S	Albany, GA	0.79	14.0	2.0	16.0	2.0	1	2	2	1	1	2	0	1	3	4	1.5	1	9	1	0.5	1	10	12				1	
S	Atlanta, GA	0.91	7.0	0.9	7.9	0.4	0	1	1	1	1	1	0	1	2	2	0.5	1	6	0	0.5	0	5	5				1	
S	Barksdale, LA	0.83	12.6	0.0	12.6	0.0	2	1	1	1	1	1	0	1	3	3	1	1	8	0	0	0	8	8				1	
S	Beaufort, SC	1.04	52.8	6.9	59.7	3.7	2	6	4	5	4	6	1	4	9	12	3	4	23	3	1	2	27	37		1	1	2	2
S	Charleston, SC	0.89	50.7	5.0	55.7	19.0	3	6	5	5	8	6	0	4	11	12	2	4	29	2	1	10	32	45		1		1	
S	Fort Worth, TX	0.89	31.0	2.5	33.5	1.3	2	3	2	3	3	3	0	2	4	7	2	2	13	1	1	1	15	22					
S	Gulfport, MS	0.92	66.2	0.5	66.7	4.5	3	6	3	5	6	6	1	4	20	13	6	4	39	1	2	2	42	41			1	10	5
S	Jacksonville, FL	0.91	76.1	18.6	94.7	43.0	6	10	14	8	8	10	3	6	21	21	10	7	62	15	3	22	80	84		1		3	2
S	Key West, FL	1.1	19.0	0.7	19.7	6.1	2	2	2	1	3	2	0	1	6	4	1.5	1	15	2	0.5	3	17	14				5	1
S	Kings Bay FSC, GA	0.96	0.5	4.0	4.5	39.0	0	1	0	1	0	1	0	0	0	1	0	0	0	6	3	20	9	24					
S	Memphis, TN	0.91	11.2	16.3	27.5	9.6	2	4	4	3	3	4	0	2	3	8	3	3	15	1	1	5	17	29				2	3
S	Meridian, MS	0.95	12.4	1.3	13.7	1.7	1	1	2	1	2	1	0	1	3	3	1.5	1	10	1	0.5	1	11	9				3	1
S	New Orleans, LA	0.95	17.4	2.5	19.9	6.5	3	2	2	2	3	2	0	1	7	4	1	1	16	1	0	3	17	16				1	
S	Panama City, FL	0.82	6.0	0.6	6.6	2.5	1	1	1	1	1	1	0	0	1	1	1	0	5	1	1	1	7	6					1
S	Pensacola, FL	0.84	42.0	6.4	48.4	12.2	4	5	5	4	5	5	0	3	7	11	3	4	24	2	1	6	27	39		1		1	
S	South Texas, TX	0.9	21.3	5.2	26.5	16.2	4	3	4	2	4	3	0	2	8	6	3	2	23	2	2	8	27	26					
	SouthDivTotal		**440**	**73**	**614**	**168**	**36**	**62**	**62**	**44**	**63**	**66**	**6**	**33**	**106**	**110**	**40**	**37**	**294**	**39**	**18**	**86**	**351**	**417**	**0**	**4**	**2**	**31**	**16**
MW	Crane, IN	1.01	22.0	1.5	23.5	5.5	3	2	3	2	5	2	1	1	4	5	0.8	2	17	3	0.2	3	20	16					
MW	Great Lakes, IL	1.26	100.0	2.0	102.0	6.0	7	7	8	6	5	7	4	4	7	14	2.5	5	34	0.5	0.5	3	35	46			1		2
	EFA MidWest Total		**122**	**4**	**126**	**12**	**10**	**9**	**11**	**8**	**10**	**9**	**5**	**8**	**11**	**19**	**3**	**6**	**60**	**4**	**1**	**6**	**66**	**62**	**0**	**0**	**1**	**0**	**2**
	SOUTH TOTAL		**662**	**77**	**639**	**179**	**46**	**61**	**63**	**62**	**63**	**64**	**10**	**39**	**119**	**129**	**43**	**43**	**344**	**43**	**19**	**92**	**406**	**479**	**0**	**4**	**3**	**31**	**17**
	GRAND TOTAL		**3036**	**468**	**3503**	**896**	**239**	**316**	**366**	**286**	**307**	**331**	**86**	**196**	**437**	**862**	**226**	**221**	**1653**	**234**		**441**	**1963**	**2432**	**2**	**7**	**17**	**71**	**46**
	CONUS		2241.55				178		252		233		76		302		164		1204										
							total		total		total		total		total		total		total			total					CASU		
	LANT						15		19		14		8		26		15		100			65			0	0	2	4	3
	PAC						11		27		18		2		33		10		100			47			0	0	0	0	0
	SWEST						16		26		29		4		10		14		100			94			0	0	0	2	1
	SOUTH						13		18		18		3		35		13		100			67			0	1	1	9	5

TypeI Factor	1.8	OS LANT	1.15	Mil	6.3	16 %	Kpm	6.0	17 %
TypeII Factor	1	OS PAC	1.15	K	7.5	13 %			100 %
Service Factor	2	$70M	4	T	10.0	10 %			
Afc Factor	2	FACTOR		Q	3.0	33 %			
Afs Factor	3			A	9.0	11 %			

Jul-01

Div	Field Office	ACF	FY01 Type I WIP $M	FY01 Type II WIP $M	FY01 Total WIP $M	FY01 Serv WIP $M	MIL		Construction Civilian/CASU											Service			Grand Total Staff	Total Algo Staff	Consruction CASU				
							Total Mil	Algo	K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	K	A	Algo			K	K PM	T	Q	A
L	Norfolk	0.92	110.0	5.0	115.0	11.0	6	9	11	7	8	9	1	6	24	19	9	6	59	6	4	6	69	62				1	
L	NNSY	0.92	60.0	25.0	85.0	25.0	3	10	13	8	8	10	1	6	15	20	5	7	45	8	3	13	66	74					1
L	Cherry Point	0.94	38.3	2.1	40.4	15.0	4	4	6	3	3	4		2	8	8	5	3	26	2		8	28	32				1	
L	Jacksonville, NC	0.94	110.0	2.0	112.0	15.0	6	8	6	7	5	9		5	20	17	7	6	44	3		8	47	60				4	2
L	Little Creek	0.92	16.9	3.1	20.0	3.5	1	2	3	2	1	2		1	8	4	4	1	17	1	1	2	19	15	1				
L	Oceana	0.92	69.0	10.0	79.0	12.0	3	8	7	7	2	8	2	5	8	17	1	6	23	3	0	6	26	57	1				
L	Yorktown	0.92	20.0	6.1	26.1	4.3	2	3	4	2	1	3		2	6	6	3	2	16	3	1	2	20	20					
L	Azores	1.34	7.0	0.0	7.0	0.0		1		1	1	1		0		1	1	0	2			0	2	4					
L	Gitmo	1.35	10.5	6.0	16.5	14.0	2	2	1	2	1	2		1	3	4	4	1	11	3	1	7	15	19					3
L	Argentia	1.26			0.0			0	1	0		0		0		0		0	1			0		0					
L	Panama	1.06			0.0			0		0		0		0		0		0	0			0	0	0					
L	Iceland	3	35.0	4.1	40.1	24.0	3	2	1	2	2	2		1	3	5	4	2	13	2	1	8	16	22					2
L	Roosevelt Roads	1.3	100.0	3.0	103.0	26.0	8	8	4	7	5	8		5	9	16	4	5	30	5	3	14	38	63				4	2
	LANTOPS Total		**578**	**66**	**644**	**180**	**38**	**56**	**57**	**47**	**37**	**59**	**4**	**38**	**104**	**118**	**47**	**39**	**287**	**36**	**14**	**73**	**336**	**428**	**2**	**0**	**0**	**10**	**10**
N	New London	1.04	39.0	2.1	41.1	18.5	4	4	4	3	3	4	1	2	7	8	3	3	22	1	2	9	25	33				1	
N	Brunswick	0.95	17.1	0.9	18.0	1.7	2	2	2	1	2	2	1	1	3	4	2	1	12	0	1	1	13	12				1	
N	North Maine	0.95	6.4	0.3	6.7	0.7	0	1	1	1	1	1	0	0	2	1	0	0	4	0	1	0	5	4					
N	Portsmouth	1.04	17.6	0.9	18.5	5.4	2	2	3	1	2	2	1	1	3	3	1	1	12	0	1	3	13	13					
N	Earle	1.21	16.9	0.9	17.8	6.3	2	1	1	1	1	2	0	1	5	3	1	1	10	1	1	3	12	12					
N	Lakehurst	1.17	15.0	0.8	15.8	5.9	2	1	2	1	1	1	0	1	3	3	1	1	9	2	1	3	12	11					
N	East PA	1.06	24.0	1.3	25.3	4.9	3	2	2	2	1	2	1	1	3	5	1	2	11	3	0	2	14	17					
N	Mechanicsburg	0.94	15.7	0.8	16.5	3.9	1	2	1	1	1	2	1	1	3	3	1	1	8	1	1	2	10	12			1		
N	Philadelphia	1.08	12.7	0.7	13.4	7.9	2	1	2	1	1	1	0	1	3	2	1	1	9	3	0	4	12	11					
N	Newport	1.07	48.6	2.6	51.2	13.8	4	5	5	4	2	5	1	3	7	10	3	3	22	2	2	7	26	35					2
	NorthDiv Total		**213**	**11**	**224**	**69**	**22**	**20**	**21**	**17**	**15**	**21**	**6**	**13**	**39**	**42**	**14**	**14**	**117**	**13**	**10**	**34**	**140**	**160**	**0**	**0**	**1**	**2**	**2**
C	Andrews	0.95			0.0			0		0		0		0		0		0	0			0	0	0					
C	Bethesda	0.95	29.0	9.6	38.6	24.6	2	4	6	4	5	4	4	3	3	9	4	3	24	8	1	13	33	39		1			
C	NDW	0.95	96.3	24.1	120.4	24.3	8	11	4	10	7	12	11	7	11	24	7	8	48	6	1	12	55	84		2	1		
C	Dahlgren	0.9	25.2	1.3	26.5	4.6	2	3	3	2	2	3	3	2	1	5	3	2	14	1	0	2	15	19			3		1
C	Indian Head	0.91	30.5	1.6	32.1	6.9	2	3	2	3	2	3	2	2	2	6	1	2	11	3	1	4	15	23			2		
C	BRAC	0.95	57.6	0.0	57.6	0.0	5	5	2	4	2	5	10	3	1	11	2	4	22	0	0	0	22	33			5		
C	PAX River	0.89	17.4	7.4	24.8	28.0	3	3	2	2	2	3	3	2	2	6	3	2	15	12	3	15	30	33					1
C	Quantico	0.92	50.0	2.7	52.7	6.5	4	5	2	4	4	5	4	3	1	11	3	4	18	3	3	3	24	36				1	2
C	USNA	0.9	57.1	3.0	60.1	7.5	4	6	4	5	7	6	5	4	2	12	4	4	26	3	0	4	29	41			3		
	EFA Ches Total		**363**	**50**	**413**	**102**	**30**	**40**	**25**	**34**	**31**	**42**	**42**	**25**	**23**	**84**	**27**	**28**	**178**	**36**	**8**	**53**	**223**	**306**	**0**	**3**	**11**	**4**	**4**
M	Aviano	1.33	45.0	0.0	45.0	0.0	4	4	2	3	3	4	1	2	8	8	3	3	21	0	0	0	21	25			1	3	1
M	Vicenza	1.33	7.3	0.0	7.3	0.0	1	1	1	1	1	1	0	0	2	1	1	0	6	0	0	0	6	4					
M	La Maddalena	1.37	0.2	0.1	0.3	5.0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	2	3					
M	Sigonella	1.32	38.9	1.0	39.9	7.4	5	4	7	3	1	4	0	2	5	7	4	2	22	0	0	4	22	26					
M	London	1.4	3.5	0.5	4.0	2.0	0	0	2	0	0	0	1	0	2	1	1	0	6	0	0	1	6	3					
M	Rota	1.12	23.3	1.0	24.3	10.5	2	2	7	2	3	3	0	2	3	5	3	2	18	0	0	6	18	21				1	
M	Souda Bay	0.74	5.1	0.5	5.6	1.5	1	1	2	1	1	1	0	0	2	1	1	0	7	0	0	1	7	5				1	
M	Bahrain	1.46	5.4	0.0	5.4	3.0	1	0	2	0	0	0	1	0	2	1	1	0	7	0	0	1	7	4				1	1
M	Cairo	1.31	0.4	0.1	0.5	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
M	Southern Italy	1.29	3.0	0.5	3.5	12.0	2	0	7	0	0	0	0	0	1	1	1	0	11	0	0	6	11	8					
M	OICC Naples	1.29	106.0	0.0	106.0	0.1	5	8	3	6	10	8	5	5	12	16	8	5	43	0	0	0	43	48			1	9	5
	EFA Med Total		**238**	**4**	**242**	**42**	**21**	**20**	**33**	**17**	**19**	**21**	**8**	**13**	**38**	**42**	**24**	**14**	**143**	**0**	**0**	**22**	**143**	**149**	**0**	**0**	**2**	**15**	**7**
	LANT TOTAL		**1392**	**131**	**1523**	**393**	**111**	**136**	**136**	**114**	**102**	**143**	**60**	**96**	**204**	**286**	**112**	**95**	**725**	**86**	**33**	**181**	**842**	**1043**	**2**	**3**	**14**	**31**	**23**
P	MCBH	1.52	61.9	0.0	61.9	8.8	2.0	5	5.0	4	9.0	5	0.0	3	8	10	2	3	26	0	0	4	26	36				1	
P	Pearl Harbor	1.47	176.2	55.0	231.2	41.2	8.0	18	32.0	15	13.0	19	4.0	11	30	37	6	12	93	26	4	20	123	133					
P	Kaho'olawe	1.5	0.0	50.0	50.0	0.0	0.0	7	7.0	6	6.0	6	0.0	5	5	15	1	5	19	0	0	0	19	46					
P	Marianas	1.99	81.9	14.1	96.0	50.8	3.0	7	5.0	6	10.0	7	0.0	4	12	14	3	5	33	8	1	22	42	65					
P	Singapore	1.5	5.5	0.3	5.8	4.5	1.0	0	1.0	0	1.0	1	0.0	0	0	1	0	0	3	2	0	2	5	5					
P	Diego Garcia	2.45	7.0	0.0	7.0	0.0	0.0	0	0.0	0	2.0	0	0.0	0	0	1	1	0	3	0	0	0	3	3					
P	Thailand	1.08	2.0	0.1	2.1	0.4	1.0	0	1.0	0	0.0	0	0.0	0	0	0	0	0	2	0	0	0	2	2					
P	OICC FE/Yoko	1.56	27.7	10.9	38.6	23.1	3.0	4	3.0	3	2.0	4	0.0	2	9	8	1	3	18	5	1	11	24	35					
P	Sasebo	1.56	4.6	7.0	11.6	9.4	1.0	1	1.0	1	2.0	1	0.0	1	3	3	3	1	10	0	0	5	10	13					
P	Okinawa	1.5	25.5	5.5	31.0	28.0	3.0	3	5.0	2	2.0	3	0.0	2	8	6	2	2	20	0	0	14	20	32					
P	Atsugi	1.65	9.0	1.8	10.8	11.1	1.0	1	2.0	1	0.0	1	0.0	1	4	2	0	1	7	0	0	5	7	11					
P	Iwakuni	1.56	6.6	0.5	7.1	4.2	1.0	1	1.0	0	0.0	1	0.0	0	3	1	1	0	6	0	0	2	6	6					
P	Chinhae	1.07	1.0	0.0	1.0	0.2	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0	0	0	0	1					
P	Misawa	1.64	0.3	0.1	0.4	0.8	0.0	0	1.0	0	0.0	0	0.0	0	1	0	0	0	2	0	0	0	2	1					
	PAC Total		**409**	**146**	**555**	**183**	**24**	**48**	**84**	**40**	**47**	**60**	**4**	**30**	**83**	**100**	**20**	**33**	**242**	**41**	**6**	**87**	**289**	**388**	**0**	**0**	**0**	**1**	**0**
SW	Barstow	1.17	21.2	2.2	23.4	1.8	1.0	2	3.0	2	1.1	2	1.0	1	0.5	4	1	1	8	2.0		1	10	14					
SW	China Lake	1.26	16.9	3.0	19.9	13.5	3.0	2	6.0	1	3.0	2	1.5	1	1.5	4	2	1	17	2.0	1.0	6	20	17					1
SW	Coronado	1.16	37.7	4.3	42.0	6.3	3.0	4	8.0	3	2.0	4	1.0	2	1	8	3	3	18	2.0	1.0	3	21	26					
SW	El Centro	1.14	7.2	0.7	7.9	9.1	1.0	1	2.0	1	1.0	1	0.5	0	0.5	1	0.5	0	6	1.0	0.5	4	7	9					
SW	Miramar	1.1	22.4	22.7	45.1	1.0	3.0	5	8.0	4	4.0	6	1.5	3	1.5	11	4	4	22	1.0	1.0	0	24	34					2
SW	Camp Pendleton	1.1	138.5	12.4	150.9	2.5	9.0	10	17.0	9	10.0	11	5.0	7	10	22	7	7	58	6.0	2.0	1	66	67				5	2
SW	Ventura County	1.13	25.2	11.0	36.2	8.3	4.0	4	8.0	3	6.0	4	3.0	2	3	8	5	3	29	2.0	2.0	4	33	28					
SW	Bridgeport	1.2	2.1		2.1	0.4	0.0	0	0.50	0	1.00	0		0		0	1	0	3	0.5		0	3	1					
SW	San Diego	1.16	29.1	2.3	31.4	11.0	3.0	3	6.0	2	1.0	3	0.5	2	0.5	6	1	2	12	3.0	2.0	5	17	22					
SW	Point Loma	1.16	23.7	2.5	26.2	6.1	2.0	2	8.0	2	2.0	2	1.0	1	1	5	2	2	16	2.0	1.0	3	19	17					
SW	El Toro (closed)	1.05																	0				0	0					
SW	Los Angeles	1.12	17.6	0.6	18.2	3.3	1.0	2	4.0	1	3.0	2	1.5	1	1.5	3	3	1	14	2.0	1.0	2	17	11					
SW	29 Palms	1.29	47.0	2.0	49.0	4.0	2.0	4	4.0	3	2.0	4	1.0	2	3	8	1	3	13	1.0	1.0	2	15	26				2	
SW	Yuma	1.12	34.2	4.0	38.2	3.3	1.0	3	2.0	3	2.0	4	1.0	2	2	7	1	2	9	1.0	1.0	2	11	23				2	
	SWDiv Total		**423**	**68**	**491**	**71**	**33**	**42**	**77**	**35**	**38**	**44**	**19**	**26**	**26**	**87**	**32**	**29**	**224**	**26**	**14**	**33**	**263**	**297**	**0**	**0**	**0**	**9**	**5**
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	26	18					
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7					
NW	NAS Whidby Island	1.16	26.81	9.66	36.47	14.88	2	4	1	3	1	4	4	2	2	8	1	3	11	4		7	15	30					
NW	Fallon	1.16	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	16					
NW	Silverdale	1.11	42.22	4.37	46.59	30	5	4	0	4	2	4	3	3	3	9	2	3	15	11	1	14	27	41					
	EFA NW Total		**109**	**26**	**134**	**69**	**14**	**13**	**6**	**11**	**7**	**13**	**11**	**8**	**11**	**27**	**8**	**9**	**57**	**32**	**3**	**33**	**92**	**114**	**0**	**0**	**0**	**0**	**0**
CW	Concord	1.16																											
CW	San Francisco	1.2	45.0	1.7	46.7	0.1	1.0	4	3.0	3	4.0	4	1.0	2	3	8	0	3	12	0		0	12	24					
CW	Lemoore	1.05	49.4	7.0	56.4	3.1	4.0	5	4.0	4	2.5	6	0.5	3	5	11	3	4	19	0		2	19	35					
CW	Monterey	1.17	11.8	2.1	13.9	5.2	1.0	1	5.0	1	1.5	1	0.5	1	2	3	0	1	10	0		2	10	10					
CW	Travis	1.18	41.2	1.7	42.9	0.0	3.0	4	4.0	3	3.0	4	1.0	2	3	8	4	3	18	0		0	18	23					
	EFA CW Total		**147**	**13**	**160**	**8**	**9**	**14**	**16**	**12**	**11**	**15**	**3**	**9**	**13**	**29**	**7**	**10**	**59**	**0**		**4**	**59**	**93**	**0**	**0**	**0**	**0**	**0**
	SWEST TOTAL		**679**	**106**	**785**	**148**	**56**	**68**	**99**	**57**	**56**	**72**	**33**	**43**	**50**	**144**	**47**	**48**	**340**	**58**		**70**	**414**	**503**	**0**	**0**	**0**	**9**	**5**

S	Albany, GA	0.79	6.5	1.0	7.5	2.0	1	1	2	1	1	1	0	1	3	2	1.5	1	9	1	0.5	1	10	6				1	
S	Atlanta, GA	0.91	7.0	0.9	7.9	0.4	0	1	1	1	1	1	0	1	2	2	0.5	1	5	0	0.5	0	5	5				1	
S	Barksdale, LA	0.83	12.4	0.0	12.4	0.0	2	1	1	1	2	1	0	1	4	3	1	1	10	0	0	0	10	8				1	
S	Beaufort, SC	1.04	55.1	4.5	59.6	3.8	3	5	4	5	4	6	1	3	9	11	3	4	24	2	1	2	27	36		1	1	2	2
S	Charleston, SC	0.89	55.7	5.0	60.7	12.0	3	6	5	5	8	6	0	4	14	13	2	4	32	2	1	6	35	44		1		2	
S	Fort Worth, TX	0.89	31.0	2.5	33.5	1.3	2	3	4	3	4	3	0	2	5	7	2	2	17	2	1	1	20	22					
S	Gulfport, MS	0.92	66.0	0.8	66.8	5.0	4	6	4	5	6	7	1	4	19	13	4	4	38	1	1	3	40	42			1	10	5
S	Jacksonville, FL	0.91	52.3	8.2	60.5	43.0	2	6	5	5	5	7	0	4	8	13	3	4	23	14	2	22	39	61		1		1	
S	Key West, FL	1.1	19.0	0.7	19.7	6.1	3	2	2	1	4	2	0	1	6	4	1.5	1	17	2	0.5	3	19	14		2		5	1
S	Kings Bay FSC, GA	0.96	6.7	4.0	10.7	39.0	0	1	0	1	0	1	0	1	0	3	0	1	0	6	3	20	9	28					
S	Mayport, FL	0.91	23.8	10.4	34.2	1.0	2	4	1	3	1	4	0	2	6	6	1	3	11	0	0	1	11	25				1	
S	Memphis, TN	0.91	5.7	10.0	15.7	10.1	2	2	4	2	4	2	0	1	3	5	1.5	2	15	1	0.5	5	16	19				1	1
S	Meridian, MS	0.95	13.4	1.6	15.0	1.7	1	1	2	1	2	2	0	1	3	3	1.5	1	10	1	0.5	1	11	10				3	1
S	New Orleans, LA	0.95	17.3	2.5	19.8	6.5	3	2	3	2	3	2	0	1	7	4	1.5	1	18	1	0.5	3	19	16				1	1
S	Panama City, FL	0.82	6.0	0.6	6.6	2.5	1	1	1	1	1	1	0	0	1	1	1	0	5	1	0	1	6	6					
S	Pensacola, FL	0.84	40.0	8.5	48.5	12.2	4	5	5	4	4	6	0	3	6	11	3	4	22	2	1	6	25	40				1	
S	South Texas, TX	0.9	27.8	2.2	30.0	21.9	4	3	3	2	4	3	0	2	6	6	3	2	22	2	2	11	26	30					
	SouthDivTotal		**446**	**63**	**509**	**169**	**37**	**51**	**47**	**43**	**54**	**54**	**2**	**32**	**104**	**108**	**31**	**36**	**276**	**38**	**15**	**87**	**328**	**412**	**0**	**5**	**2**	**30**	**11**
MW	Crane, IN	1.01	22.5	1.0	23.5	5.0	2	2	4	2	4	2	0	1	5	4	0.5	1	16	2	0.5	2	18	16					
MW	Great Lakes, IL	1.26	104.0	2.0	106.0	6.0	7	7	7	6	5	7	2	4	8	15	1.5	5	31	1	0.5	3	32	47					2
	EFA MidWest Total		**127**	**3**	**130**	**11**	**9**	**9**	**11**	**8**	**9**	**10**	**2**	**6**	**13**	**19**	**2**	**6**	**46**	**3**	**1**	**5**	**50**	**63**	**0**	**0**	**0**	**0**	**2**
	SOUTH TOTAL		**572**	**66**	**639**	**180**	**46**	**61**	**58**	**51**	**63**	**64**	**4**	**38**	**117**	**127**	**33**	**42**	**321**	**41**	**16**	**92**	**378**	**474**	**0**	**5**	**2**	**30**	**13**
	GRAND TOTAL		**3062**	**448**	**3601**	**873**	**237**	**313**	**357**	**283**	**288**	**329**	**101**	**197**	**464**	**667**	**212**	**219**	**1628**	**225**		**430**	**1923**	**2408**	**2**	**8**	**16**	**71**	**41**
	CONUS		2251.55				179		253		193		89		318		155		1186										
							total		total		total		total		total		total		total			total					CASU (%)		
	LANT						15		19		14		8		28		15		100			65			0	0	2	4	3
	PAC						10		26		19		2		34		8		100			54			0	0	0	0	0
	SWEST						16		29		17		10		15		14		100			82			0	0	0	3	1
	SOUTH						14		18		20		1		36		10		100			62			0	2	1	9	4

TypeI Factor 1.8
TypeII Factor 1
Service Factor 2
Afc Factor 2
Afs Factor 3

OS LANT 1.15
OS PAC 1.15
$70M 4
FACTOR

Mil 6.3 16 %
K 7.5 13 %
T 10.0 10 %
Q 3.0 33 %
A 9.0 11 %

Kpm 4.0 17 %
100 %

= need to verify

Jan-02

Div	Field Office	ACF	FY02 Type I WIP $M	FY02 Type II WIP $M	FY02 Total WIP $M	FY02 Serv WIP $M	MIL Total Mil	MIL Algo	Construction Civilian/CASU K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	Service K	Service A	Service Algo	Grand Total Staff	Total Algo Staff	Construction CASU K	K PM	T	Q	A
L	Sewalls Point (Norfolk)	0.92	113.0	7.1	120.1	11.0	7	9	12	8	14	10	4	6	16	20	4	7	57	8	0	8	63	65			1	1	
L	NNSY	0.92	74.0	6.5	80.5	28.0	5	8	14	6	13	8	3	5	14	16	3	5	52	7	0	14	59	63	1			2	1
L	Cherry Point	0.94	41.3	0.0	41.3	12.0	4	4	6	3	4	4		2	8	8	2	3	24	5		8	28	30				2	2
L	Jacksonville, NC	0.94	111.0	4.0	115.0	18.0	6	9	9	7	5	9	4	5	12	18	2	6	38	7		9	45	64	2			2	2
L	Little Creek	0.92	26.2	0.0	26.2	4.1	2	2	3	2	3	3		2	4	5		2	12	7		2	19	17	1				
L	Oceana	0.92	56.4	7.5	63.9	5.4	4	6	6	5	4	7	1	4	8	13	1	4	24	3	0	3	27	43	1				
L	Peninsula (Yorktown)	0.92	20.6	0.9	21.5	5.0	1	2	4	2	2	2		1	4	4	0	1	11	3	1	3	15	15					
L	Azores	1.28	10.0	0.0	10.0	0.0	1	1	1	1		1		1	1	2	1	1	4			0	4	6					
L	Gitmo	1.31	13.8	1.8	15.6	12.8	2	1	3	1	2	2		1	1	3		1	8	3		7	11	16					3
L	Argentia				0.0	0.0		0	1	0		0		0		0		0	1			0		0					
L	Panama				0.0	0.0		0		0		0		0		0		0	0			0	0	0					
L	Iceland	2.59	38.5	4.1	42.6	16.5	2	3	3	2	1	3		2	2	5	1	2	9	3		6	12	23					2
L	Roosevelt Roads	1.38	54.5	4.4	58.9	22.0	7	5	4	4	5	6		3	8	11	2	4	26	6	3	11	35	45				3	2
	LANTOPS Total		**559**	**36**	**596**	**135**	**41**	**51**	**66**	**43**	**53**	**53**	**12**	**32**	**78**	**105**	**16**	**35**	**266**	**50**	**4**	**67**	**319**	**387**	**6**	**0**	**1**	**10**	**12**
N	New London	1.12	34.6	1.8	36.4	14.3	4	3	5	3	4	3	2	2	4	7	4	2	23	6	0	7	29	27	1				
N	Brunswick																												
N	North Maine (Brunswick)	1.07	30.3	1.5	31.8	2.6	2	3	3	2	5	3	2	2	4	6	3	2	19	1	0	1	20	19				2	
N	Portsmouth	1.04	24.1	2.0	26.1	2.8	2	2	4	2	2	3	3	2	0	5	2	2	13	6	0	1	19	17					
N	New Jersey (Earle/Lakehurst)	1.22	36.6	1.7	38.3	10.1	5	3	5	3	3	3	4	2	5	7	4	2	26	8	0	5	35	25	1		1		
N	East PA	1.08	50.0	0.8	50.8	8.0	5	4	7	4	4	5	5	3	1	9	3	3	25	6	0	4	31	31					
N	Mechanicsburg	0.94	11.2	0.8	12.0	1.0	1	1	2	1	1	1	1	1	0	2	1	1	6	3	0	1	9	8	1	1	0		
N	Philadelphia	1.08	12.7	0.7	13.4	7.9	2	1	2	1	1	1	0	1	3	2	1	1	9	3	0	4	12	11					
N	Newport	1.09	48.6	2.8	51.2	13.8	4	4	5	4	2	5	1	3	7	9	3	3	22	2	2	7	26	35					2
N	Lakehurst																												
	NorthDiv Total		**248**	**12**	**260**	**61**	**25**	**23**	**33**	**19**	**22**	**24**	**18**	**14**	**24**	**49**	**21**	**16**	**143**	**36**	**2**	**29**	**181**	**173**	**3**	**1**	**1**	**2**	**2**
C	Andrews				0.0			0		0		0		0		0		0	0			0	0	0					
C	Bethesda	0.86	20.5	2.5	23.0	24.0	2	2	8	2	3	2	4	1	0	5	1	2	18	0	0	12	18	26					1
C	NDW (Inc. BRAC)	0.96	65.2	13.0	78.2	21.3	8	8	11	7	5	8	10	5	6	17	2	6	42	6	1	11	48	61		1	2		1
C	Dahlgren	0.91	26.3	2.0	28.3	3.1	3	3	4	2	2	3	2	2	0	6	1	2	12	5	0	2	17	19					1
C	Indian Head	0.96	20.6	0.6	21.2	5.8	2	2	4	2	2	2	2	1	2	4	1	1	13	8	0	3	21	15			1		1
C	PAX River	1.08	36.4	2.2	38.6	25.8	3	3	15	3	2	4	6	2	1	7	2	2	29	15	0	13	44	34					2
C	Quantico	0.94	40.4	0.0	40.4	8.5	3	4	5	3	3	4	8	2	0	8	2	3	21	8	0	4	28	28					2
C	USNA	0.9	62.8	0.0	62.8	0.9	5	6	8	5	6	6	4	4	3	12	3	4	29	3	0	0	37	37				3	3
C	BRAC																												
	EFA Ches Total		**272**	**20**	**292**	**89**	**26**	**29**	**65**	**23**	**23**	**29**	**36**	**18**	**12**	**69**	**12**	**19**	**164**	**45**	**1**	**45**	**210**	**221**	**0**	**1**	**3**	**3**	**11**
M	Aviano	1.32	51.0	0.0	51.0	0.0	4	4	2	4	3	6	1	3	8	9	3	3	21	0	0	0	21	28			1	3	1
M	Vicenza	1.32	3.7	0.0	3.7	1.3	1	0	1	0	0	0	0	0	2	1	1	0	5	0	0	1	5	3					
M	La Maddalena	1.28	0.7	0.0	0.7	4.0	0	0	1	0	0	0	0	0	1	0	1	0	3	0	0	2	3	2					
M	Sigonella	1.18	54.2	0.0	54.2	6.3	5	5	7	4	1	5	0	3	5	11	4	4	22	0	0	3	22	36					
M	London	1.32	3.0	0.5	3.5	2.0	0	0	2	0	0	0	2	0	1	1	1	0	6	0	0	1	6	3					
M	Rota	1.2	25.0	0.0	25.0	9.0	2	2	8	2	3	2	0	1	4	5	2	2	19	0	0	5	19	19				1	
M	Souda Bay	1.14	5.1	0.5	5.6	1.5	1	1	2	0	1	1	0	0	2	1	1	0	7	0	0	1	7	4				1	
M	Bahrain	1.31	5.4	0.0	5.4	3.0	1	0	2	0	0	0	1	0	1	1	1	0	6	0	0	2	6	5				1	1
M	Southern Italy	1.2	20.1	0.5	20.6	11.3	2	2	7	2	0	2	0	1	1	4	1	1	11	0	0	6	11	18					
M	OICC Naples	1.2	96.8	0.0	96.8	1.9	3	8	2	6	8	8	1	5	9	16	5	5	28	0	0	1	28	49				8	1
M	Cairo																												
	EFA Med Total		**285**	**2**	**286**	**40**	**19**	**23**	**34**	**19**	**16**	**24**	**5**	**15**	**34**	**49**	**20**	**16**	**128**	**0**	**0**	**22**	**128**	**169**	**0**	**0**	**1**	**14**	**3**
	LANT TOTAL		**1344**	**70**	**1414**	**325**	**111**	**124**	**198**	**104**	**114**	**131**	**71**	**78**	**148**	**281**	**69**	**87**	**701**	**131**	**7**	**163**	**838**	**948**	**8**	**2**	**6**	**29**	**28**
P	MCBH	1.64	109.4	0.0	109.4	6.8	2	7	5	6	10	7	0.0	4	9	14	3	5	28	0	0	4	29	47				1	
P	Pearl Harbor	1.57	176.2	55.0	231.2	41.2	10	17	30	14	13	18	5.0	11	30	36	5	12	93	23	4	20	120	128					
P	Kaho'olawe	1.5	0.0	46.5	46.5	3.5	0	7	7	6	6	7	0.0	4	4	14	1	5	18	0	0	2	18	45					
P	Marianas	2.03	54.6	29.7	84.3	33.7	5	7	7	6	10	8	0.0	5	14	15	5	5	41	11	2	14	54	60					
P	Singapore	1.13	0.0	0.0	0.0	4.5	1	0	1	0	1	0	0.0	0	0	0	0	0	3	2	0	2	5	2					
P	Diego Garcia	2.52	9.5	0.0	9.5	25.0	1	1	0	0	2	1	0.0	0	1	1	1	0	5	5	1	10	11	13					
P	Thailand	1.13	2.2	0.1	2.3	0.4	1	0	1	0	1	0	0.0	0	0	0	1	0	4	0	0	0	4	7					
P	OICC FE/Yoko	1.92	26.6	18.0	44.6	23.0	3	4	7	3	3	4	0.0	3	9	9	1	3	23	6	1	10	30	36					
P	Sasebo	1.92	4.6	7.0	11.6	9.4	1	1	1	1	1	1	0.0	1	3	3	2	1	8	1	1	4	10	12					
P	Okinawa	1.9	25.5	5.5	31.0	28.0	4	2	5	2	2	3	0.0	2	8	5	2	2	21	0	0	12	21	28					
P	Atsugi	1.94	8.0	1.8	10.8	10.0	1	1	2	1	0	1	0.0	1	4	2	0	1	7	0	0	4	7	10					
P	Iwakuni	1.85	7.2	0.5	7.7	6.2	1	1	1	0	0	1	0.0	0	3	1	1	0	6	0	0	3	6	6					
P	Chinhae	1.13	1.0	0.0	1.0	0.2	0	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	1					
P	Misawa	1.98	3.0	0.2	3.2	0.1	2	0	1	0	0	0	0.0	0	1	0	0	0	4	0	0	0	4	1					
	PAC Total		**429**	**164**	**593**	**194**	**32**	**46**	**68**	**40**	**49**	**61**	**6**	**30**	**86**	**101**	**22**	**34**	**282**	**48**	**9**	**86**	**319**	**391**	**0**	**0**	**0**	**1**	**0**
SW	Barstow	1.17	14.9	4.9	19.8	2.2	1.0	2	3.0	2	1.0	2	0.5	1	1.5	4	1	1	8	2.0		1	10	13					
SW	China Lake	1.3	13.5	3.0	16.5	11.6	3.0	1	4.0	1	3.0	2	1.0	1	2	3	1	1	14	2.0	1.0	5	17	14					1
SW	Coronado	1.2	37.6	6.3	43.9	6.8	4.0	4	6.0	3	1.0	4	0.5	2	1.5	8	2	3	15	2.0	2.0	3	19	28					
SW	El Centro	1.24	6.9	2.6	9.6	8.2	1.0	1	2.0	1	1.0	1	0.5	1	0.5	2		1	5	1.0		4	6	10					
SW	Miramar	1.19	33.6	30.0	63.6	3.0	3.0	7	8.0	6	3.0	7	1.0	4	2	15	2	5	19	1.0	1.0	1	21	46					
SW	Camp Pendleton	1.19	116.1	10.7	126.8	3.7	10.0	9	16.0	7	10.0	9	3.0	6	9	19	6	6	54	6.0	2.0	2	62	58				2	1
SW	Ventura County	1.12	33.1	12.0	45.1	10.8	6.0	5	5.0	4	5.0	5	2.0	3	3	10	3	3	24	2.0	2.0	5	28	34					
SW	Bridgeport	1.35	1.7	0.5	2.2	0.4	0.0	0	0.50	0	1.00	0		0		0		0	2	0.5		0	2	1					
SW	San Diego	1.2	43.9	6.0	49.9	9.1	3.0	4	7.0	4	2.0	5	1.0	3	2	9	2	3	17	3.0	1.0	4	21	32					
SW	Point Loma	1.2	23.5	2.5	26.0	8.0	2.0	2	6.0	2	2.0	2	1.0	1	1	5	2	2	14	2.0	1.0	4	17	18					
SW	El Toro (closed)																		0				0	0					
SW	Los Angeles	1.12	20.3	0.0	20.4	3.1	1.0	2	5.0	1	3.0	2	1.0	1	3	4	1	1	14	1.0	1.0	2	16	12					
SW	29 Palms	1.35	49.5	0.6	50.1	3.5	2.0	4	4.0	3	2.0	4	1.0	2	3	8	1	3	13	1.0	1.0	2	15	26				1	
SW	Yuma	1.16	24.8	4.0	28.8	3.7	2.0	3	3.0	2	2.0	3	1.0	2	2	6	1	2	11	1.0	1.0	2	13	18				1	
	SWDiv Total		**419**	**83**	**503**	**74**	**38**	**44**	**70**	**37**	**35**	**46**	**14**	**27**	**31**	**82**	**22**	**31**	**210**	**25**	**13**	**35**	**247**	**310**	**0**	**0**	**0**	**4**	**2**
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	26	18					
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7					
NW	NAS Whidby Island	1.27	26.81	9.66	36.47	14.88	2	3	1	3	1	4	4	2	2	7	1	2	11	4		7	15	29					
NW	Fallon	1.2	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	17					
NW	Silverdale	1.14	42.22	4.37	46.59	30	5	4	0	3	2	4	3	3	3	9	2	3	15	11	1	14	27	40					
	EFA NW Total		**109**	**25**	**134**	**69**	**14**	**12**	**6**	**10**	**7**	**13**	**11**	**8**	**11**	**26**	**8**	**9**	**57**	**32**	**3**	**33**	**82**	**111**	**0**	**0**	**0**	**0**	**0**
CW	Concord																												
CW	San Francisco	1.2	44.5	0.0	44.5	0.1	1.0	4	3.0	3	0.0	4	6.0	2	3	7	1	2	14	0		0	14	23					
CW	Lemoore	1.25	49.0	8.2	57.2	5.0	4.0	5	1.5	4	2.0	5	4.0	3	6	10	3	3	21	1.5		2	22	34					
CW	Monterey	1.17	11.6	2.2	13.8	5.6	2.0	1	1.0	1	1.0	1	1.0	1	2	3	0	1	7	2		3	9	11					
CW	Travis	1.24	30.9	0.0	30.9	0.0	4.0	2	2.0	2	2.0	3	5.0	2	5	5	2	2	20	0		0	20	15					
	EFA CW Total		**136**	**10**	**146**	**11**	**11**	**12**	**8**	**10**	**5**	**13**	**16**	**9**	**16**	**25**	**6**	**9**	**62**	**4**		**5**	**66**	**83**	**0**	**0**	**0**	**0**	**0**
	SWEST TOTAL		**864**	**119**	**783**	**154**	**63**	**66**	**83**	**57**	**48**	**72**	**41**	**43**	**68**	**144**	**36**	**48**	**328**	**60**		**72**	**404**	**604**	**0**	**0**	**0**	**4**	**2**

S	Albany, GA	0.79	8.5	1.0	7.5	2.0	1	1	2	1	1	1	0	1	3	2	1.5	1	9	1	0.5	1	10	8				1	
S	Atlanta, GA	0.91	6.5	0.9	7.4	0.9	0	1	1	1	1	1	0	0	2	2	1	1	5	0	0	0	5	5				1	
S	Barksdale, LA	0.86	12.8	1.5	14.3	0.9	2	1	1	1	2	2	0	1	3	3	1	1	9	0	0	0	9	10					
S	Beaufort, SC	1.04	55.1	4.5	59.6	3.8	3	5	4	5	5	6	0	3	8	11	3	4	23	2	1	2	26	38		1		2	2
S	Charleston, SC	0.89	55.7	8.0	63.7	13.0	3	7	5	5	7	7	0	4	13	14	2	5	30	2	1	7	33	48		1		1	
S	Fort Worth, TX	0.89	37.4	2.5	39.9	1.0	2	4	4	3	4	4	0	2	5	8	2	3	17	2	1	1	20	25					
S	Gulfport, MS	0.97	66.0	0.8	66.8	5.0	4	6	4	5	7	7	1	4	19	13	4	4	39	1	1	3	41	42			1	8	3
S	Jacksonville, FL	0.93	52.3	8.2	60.5	43.0	3	6	5	5	6	6	0	4	8	13	3	4	25	12	2	22	39	61		1		1	
S	Key West, FL	1.1	17.4	0.7	18.1	3.0	3	2	3	1	4	2	0	1	5	3	2	1	17	2	0	1	19	11		2		1	1
S	Kings Bay FSC, GA	0.99	6.7	4.0	10.7	39.0	1	1	1	1	0	1	0	1	3	3	1	1	6	5	3	20	14	27					
S	Mayport, FL	0.93	23.8	10.4	34.2	1.0	2	4	3	3	1	4	0	2	6	8	1	3	13	0	0	1	13	26					
S	Memphis, TN	1	12.1	16.3	28.4	11.5	2	4	4	3	5	4	0	2	5	8	1.5	3	18	1	0.5	6	19	29					1
S	Meridian, MS	0.95	21.7	3.1	24.8	2.6	1	2	2	2	2	3	0	2	3	5	2	2	10	1	0	1	11	17				1	
S	New Orleans, LA	0.95	16.0	2.5	18.5	6.5	3	2	2	2	4	2	0	1	7	4	1.5	1	18	1	0.5	3	19	15				1	1
S	Panama City, FL	0.92	7.5	0.6	8.1	2.7	1	1	1	1	1	1	0	1	1	2	1	1	5	1	0	1	6	7					
S	Pensacola, FL	0.94	35.0	15.0	50.0	15.0	4	6	5	5	4	6	0	4	5	12	3	4	21	2	1	8	24	45					
S	South Texas, TX	0.9	26.8	2.2	29.0	16.1	3	3	2	2	3	3	0	2	7	6	3	2	18	2	2	8	22	26					
	SouthDivTotal		**459**	**82**	**542**	**167**	**38**	**66**	**49**	**47**	**67**	[illegible]	**1**	**35**	**103**	**117**	**34**	**39**	**282**	**36**	**14**	**86**	**330**	**436**	**0**	**5**	**1**	**17**	**8**
MW	Crane, IN	1.06	22.5	1.0	23.5	1.7	2	2	5	2	5	2	0	1	5	4	1	1	18	1	0	1	19	14					
MW	Great Lakes, IL	1.26	125.0	2.0	127.0	9.0	7	8	7	6	6	8	3	5	10	16	1.5	5	35	1	0.5	4	38	53					2
	EFA MidWest Total		**148**	**3**	**151**	**11**	**9**	**10**	**12**	**8**	**11**	**10**	**3**	**6**	**16**	**20**	**3**	**7**	**53**	**2**	**1**	**5**	**56**	**67**	**0**	**0**	**0**	**0**	**2**
	SOUTH TOTAL		**807**	[illegible]	**692**	**178**	**47**	**65**	**61**	**56**	[illegible]	[illegible]	**4**	**41**	**118**	**137**	**36**	**46**	**334**	**37**	**14**	**90**	**385**	**503**	**0**	**5**	**1**	**17**	**10**
	GRAND TOTAL		**3044**	**439**	**3483**	**860**	**263**	**308**	**400**	**257**	**279**	**321**	**121**	**193**	**410**	**643**	**163**	**214**	**1626**	**276**		**411**	**1846**	**2346**	**8**	**7**	**7**	**51**	**40**
	CONUS		2233.72				190		286		206		111		278		117		1187										
							total		total		total		total		total		total		total			total					CASU (%)		
	LANT						18		27		16		10		21		10		100			85			1	0	1	4	4
	PAC						12		26		19		2		33		8		100			66			0	0	0	0	0
	SWEST						19		25		15		12		18		11		100			83			0	0	0	1	1
	SOUTH						14		18		20		1		35		11		100			56			0	1	0	5	3

TypeI Factor 1.8 OS LANT 1.15 Mil 6.3 16 % Kpm 6.0 17 %
TypeII Factor 1 OS PAC 1.15 K 7.5 13 % 100 %
Service Factor 2 $70M 4 T 10.0 10 %
Afc Factor 2 FACTOR Q 3.0 33 %
Afs Factor 3 A 8.0 11 %

Jul-02

			FY02	FY02	FY02	FY02	MIL		Construction Civilian/CASU											Service					Consruction CASU				
Div	Field Office	ACF	Type I WIP $M	Type II WIP $M	Total WIP $M	Serv WIP $M	Total Mil	Algo	K	Algo	K PM	Algo	T	Algo	Q	Algo	A	Algo	Total Staff	K	A	Algo	Grand Total Staff	Total Algo Staff	K	K PM	T	Q	A
L	Sewells Point (Norfolk)	0.94	113.0	7.1	120.1	11.0	7	9	9	8	10	10	3	8	20	19	8	6	57	6	0	6	65	64				1	
L	NNSY	0.94	74.0	6.5	80.5	28.0	5	8	11	6	10	8	2	5	13	16	2	5	43	9	2	14	54	62	1			1	3
L	Cherry Point	0.94	41.3	0.0	41.3	12.0	5	4	4	3	4	4	1	2	8	8	1	3	23	7	0	6	30	30				2	2
L	Jacksonville, NC	0.94	111.0	4.0	115.0	18.0	6	9	7	7	8	9	5	5	12	18	6	6	42	5	4	9	51	64	2			2	2
L	Little Creek	0.94	26.2	0.0	26.2	4.1	3	2	2	2	3	3	1	2	4	5	1	2	14	2		2	16	17	1				1
L	Oceana	0.94	56.4	7.5	63.9	5.4	4	6	6	5	4	7	1	4	7	13	2	4	24	2	0	3	26	43	1				
L	Peninsula (Yorktown)	0.94	20.6	0.9	21.5	5.0	1	2	3	2	2	2	0	1	5	4	2	1	13	2	1	3	16	15					
L	Azores	1.28	10.0	0.0	10.0	0.0	1	1	1	1	1	1	0	1	1	2	0	1	4			0	4	6					
L	Gitmo	1.3	13.8	1.8	15.6	12.8	2	2	1	1	2	2		1	2	3	3	1	10	2		7	12	16					3
L	Argentia				0.0	0.0		0		0		0		0		0		0	0			0		0					
L	Panama				0.0	0.0		0		0		0		0		0		0	0			0	0	0					
L	Iceland	2.65	38.5	4.1	42.6	16.5	2	3	1	2	2	3		2	2	5	5	2	12	3		8	15	22					2
L	Roosevelt Roads	1.37	54.5	4.4	58.9	22.0	7	5	3	4	5	6	1	3	9	11	4	4	29	5	3	11	37	45				3	2
	LANTOPS Total		559	36	596	135	43	50	48	42	49	53	14	32	83	106	34	35	271	45	10	67	326	385	5	0	0	9	15
N	New London	1.1	36.3	1.0	37.3	16.0	4	3	4	3	3	3	1	2	5	7	2	2	18	1	2	8	22	28					1
N	Brunswick																												
N	North Maine (Brunswick)	1.05	29.7	1.3	31.0	2.7	2	3	3	2	4	3	1	2	7	6	2	2	18	0	1	1	20	19				3	
N	Portsmouth	1.06	20.3	1.5	21.8	7.0	2	2	2	2	2	2	1	1	2	4	2	1	11	1	0	3	12	18					
N	New Jersey (Earle/Lakehurst)	1.21	34.0	1.7	35.7	9.6	5	3	3	2	1	3	2	2	9	6	4	2	24	4	0	4	26	23		1		1	
N	East PA	1.08	36.4	0.3	36.7	9.8	5	3	7	3	4	3	1	2	5	7	2	2	24	1	0	6	25	25					
N	Mechanicsburg	0.93	4.5	0.8	5.3	2.1	1	1	1	0	2	1	1	0	1	1	1	0	7	1	0	1	8	5					
N	Philadelphia				0.0			0		0		0		0		0		0	0		0	0	0	0					1
N	Newport	1.09	34.2	4.0	38.2	10.0	3	3	5	3	2	4	1	2	6	7	1	2	18	2	2	5	22	27				1	1
N	Lakehurst																												
	NorthEast Total		195	11	206	57	22	18	25	15	19	19	8	11	36	38	14	13	122	6	6	28	135	142	0	1	0	6	3
C	Andrews				0.0			0		0		0		0		0		0	0			0	0	0					
C	Bethesda	0.98	20.0	0.0	20.0	16.0	2	2	9	1	4	2	4	1	0	4	1	1	20			8	20	19					1
C	NDW (inc. BRAC)	0.98	71.5	16.0	87.5	21.5	9	9	10	7	6	9	10	6	5	19	4	6	44			11	44	67		0	2		3
C	Dahlgren	0.98	24.9	2.0	26.9	3.1	3	3	4	2	3	3	5	2	0	5	1	2	16			2	16	18			3		1
C	Indian Head	0.96	20.6	0.0	20.6	5.8	2	2	4	2	2	2	2	1	2	4	0	1	12			3	12	15			1		0
C	PAX River	1.08	36.4	1.5	37.9	25.8	4	3	14	3	2	3	6	2	1	7	2	2	29			13	29	33					2
C	Quantico	0.98	38.5	0.0	38.5	9.5	5	3	5	3	3	4	7	2	0	7	2	2	22			5	22	26			1		2
C	UBNA	0.98	61.0	0.0	61.0	12.2	4	5	7	5	6	6	7	3	0	11	3	4	27			6	27	40				0	3
C	BRAC																												
	EFA Ches Total		273	19	292	94	29	27	63	23	26	29	41	17	8	67	13	19	170	0	0	47	170	219	0	0	7	0	12
M	Aviano	1.4	51.0	0.0	51.0	0.0	4	4	2	4	3	5	1	3	7	9	3	3	20			0	20	27			1	2	1
M	Vicenza	1.4	3.7	0.0	3.7	1.3	1	0	1	0	0	0	0	0	2	1	1	0	5			1	5	3					
M	La Maddalena	1.28	0.4	0.0	0.4	4.0	0	0	2	0	1	0	0	0	1	0	0	0	4			2	4	2					
M	Sigonella	1.16	54.2	0.0	54.2	6.3	5	5	9	4	2	5	0	3	9	11	4	4	29			3	29	36				4	1
M	London	1.35	3.0	0.5	3.5	2.0	0	0	2	0	0	0	2	0	1	1	1	0	6			1	6	3					
M	Rota	1.2	25.0	0.0	25.0	9.0	2	2	8	2	3	2	0	1	5	5	2	2	20			5	20	19				2	
M	Souda Bay	1.23	5.1	0.5	5.6	1.5	1	1	2	0	1	1	0	0	2	1	1	0	7	1		1	8	4				1	
M	Bahrain	1.31	8.0	0.0	8.0	5.5	1	1	2	1	0	1	1	0	1	1	1	0	6			3	6	7				1	1
M	Southern Italy	1.2	20.1	0.5	20.6	11.3	3	2	8	2	2	2	0	1	3	4	1	1	17			6	17	18					
M	OICC Naples	1.2	70.0	0.0	70.0	1.9	2	6	2	5	11	7	1	4	8	14	4	5	26			1	28	42				7	3
M	Cairo																												
	EFA Med Total		241	2	242	43	19	22	38	19	23	23	8	14	38	46	18	16	142	1	0	23	143	182	0	0	1	17	6
	LANT TOTAL		1262	68	1336	329	113	118	164	98	116	124	68	74	165	247	79	82	705	64	16	164	774	908	6	1	8	31	36
P	MCBH	1.75	[illegible]	0.0	110.0	[illegible]	2	6	5	5	10	7	0	4	[illegible]	14	3	5	28	0	0	0	28	41				1	
P	Pearl Harbor	1.67	[illegible]	[illegible]	239.3	[illegible]	[illegible]	17	[illegible]	14	[illegible]	18	5	11	[illegible]	35	4	12	89	[illegible]	[illegible]	19	113	125					
P	Kaho'olawe	1.5	0.0	46.5	46.5	3.5	0	7	[illegible]	6	6	7	0	4	[illegible]	14	1	5	16	0	0	2	16	45					
P	Marianas	2.03	[illegible]	[illegible]	87.0	[illegible]	5	6	7	5	10	6	0	4	14	12	5	4	41	[illegible]	2	32	53	89					
P	Singapore	1.13	0.0	0.0	0.0	4.5	1	0	1	0	1	0	0	0	0	0	0	0	3	2	0	2	5	2					
P	Diego Garcia	2.51	18.8	0.0	18.8	31.8	1	1	0	1	2	1	0	1	1	2	1	1	5	5	1	12	11	18					
P	Thailand	1.09	2.2	0.1	2.3	0.4	1	0	1	0	1	0	0	0	0	0	1	0	4	0	0	0	4	2					
P	OICC FE/Yoko	1.62	[illegible]	[illegible]	44.6	23.0	3	4	7	3	[illegible]	4	[illegible]	2	9	8	1	3	25	6	[illegible]	11	31	35					
P	Sasebo	1.62	[illegible]	[illegible]	14.5	[illegible]		1	[illegible]	1	1	1	0	1	[illegible]	3	[illegible]	1	11	1	[illegible]	4	12	12					
P	Okinawa	1.52	25.5	5.5	31.0	28.0	[illegible]	3	5	2	[illegible]	3	[illegible]	2	8	6	2	2	25	[illegible]	0	14	29	33					
P	Atsugi	1.66	9.0	1.8	10.8	10.0	1	1	2	1	0	1	0	1	4	2	0	1	7	0	0	5	7	11					
P	Iwakuni	1.59	[illegible]	[illegible]	10.9	6.2	[illegible]	1	1	1	0	1	0	1	3	2	1	1	7	[illegible]	0	3	8	9					
P	Chinhae	1.13	1.0	0.0	1.0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1					
P	Misawa	1.68	[illegible]	[illegible]	2.9	[illegible]	2	0	1	0	0	0	0	0	1	0	0	0	4	0	0	0	4	1					
	PAC Total		496	125	620	233	34	47	67	40	81	80	8	30	86	90	20	33	267	60	6	106	323	404	0	0	0	1	0
SW	Barstow	1.17	13.0	12.0	25.0	4.0	1.0	3	3.0	2	1.0	3	0.5	2	1.5	6	1	2	8	2.0		2	10	20					
SW	China Lake	1.29	13.5	3.0	16.5	11.6	3.0	1	3.5	1	3.0	2	1.0	1	1	3	2	1	14	2.5	1.0	5	17	14					1
SW	Coronado	1.19	31.9	10.1	42.0	14.8	4.0	4	5.0	3	1.0	4	0.5	3	1.5	8	2	3	14	2.0	2.0	7	18	33					
SW	El Centro	1.24	6.9	2.6	9.6	8.2	1.0	1	2.0	1	1.0	1	0.5	1	0.5	2	1	1	6	1.0		4	7	10					
SW	Miramar	1.19	59.0	6.0	65.0	3.5	3.0	6	8.0	5	3.0	6	2.0	4	2	12	3	4	21	1.0	2.0	2	24	37					
SW	Camp Pendleton	1.19	110.0	10.7	120.7	3.7	10.0	9	16.0	7	10.0	9	3.0	5	11	18	1	6	51	4.0	2.0	2	57	56				2	1
SW	Ventura County	1.12	33.1	12.0	45.1	10.8	5.0	5	5.0	4	5.0	5	2.0	3	4	10	3	3	24	2.0	2.0	5	28	34					
SW	Bridgeport	1.35	1.7	0.5	2.2	0.4	0.0	0	0.50	0	2.00	0		0		0		0	3	0.5		0	3	1		1.00			
SW	San Diego	1.19	60.7	6.0	66.7	8.2	3.0	5	4.5	5	2.5	6	1.75	4	1.75	12	4	4	18	3.5	1.0	4	22	40					
SW	Point Loma	1.19	17.0	7.9	24.9	1.2	2.0	3	6.0	2	2.0	3	1.0	2	1	5	2	2	14	2.0	1.0	1	17	16					
SW	El Toro (closed)																		0				0	0					
SW	Los Angeles	1.12	20.3	0.0	20.4	3.1	1.0	2	5.0	1	3.0	2	1.0	1	3	4	1	1	14	1.0	1.0	2	18	12					
SW	29 Palms	1.35	55.8	0.7	56.5	6.1	3.0	4	4.0	4	2.0	4	3.0	3	4	9	2	3	18	1.0	1.0	3	20	30			1.0	1	
SW	Yuma	1.15	24.8	4.0	28.8	3.7	2.0	3	2.5	2	1.75	3	0.5	2	3.75	6	1	2	12	1.5	1.0	2	14	18				1	
	SWDIV Total		448	76	523	79	38	45	65	38	37	47	17	28	35	95	23	32	215	24	14	37	253	322	0	1	1	4	2
NW	Bremerton	1.16	17.82	5.9	23.72	7.6	4	2	1	2	2	2	2	1	2	5	1	2	12	12	2	4	26	18					
NW	Everett	1.11	9.1	0.9	10	2.4	1	1	0	1	1	1	1	1	1	2	2	1	6	4		1	10	7					
NW	NAS Whidby Island	1.27	26.81	9.66	36.47	14.88	2	3	1	3	1	4	4	2	2	7	1	2	11	4		7	15	29					
NW	Fallon	1.19	12.9	4.6	17.5	14.1	2.0	2	4.0	1	1.0	2	1.0	1	3	4	2	1	13	1		7	14	17					
NW	Silverdale	1.18	42.22	4.37	46.59	30	5	4	0	3	2	4	3	3	3	9	2	3	15	11	1	14	27	40					
	EFA NW Total		109	25	134	69	14	12	6	10	7	13	11	8	11	26	8	9	57	32	3	32	92	111	0	0	0	0	0
CW	Concord																												
CW	San Francisco	1.2	45.0	1.7	46.7	0.1	1.0	4	3.0	3	4.0	4	1.0	2	3	8	0	3	12			0	12	24					
CW	Lemoore	1.25	49.4	7.0	56.4	3.1	4.0	5	4.0	4	2.5	5	0.5	3	5	10	3	3	19			1	19	32					
CW	Monterey	1.16	11.8	2.1	13.9	5.2	1.0	1	5.0	1	1.5	1	0.5	1	2	3	0	1	10			2	10	11					
CW	Travis	1.24	41.2	1.7	42.9	0.0	3.0	3	4.0	3	3.0	4	1.0	2	3	7	4	2	18			0	18	22					
	EFA CW Total		147	13	160	8	9	13	16	11	11	14	3	8	13	28	7	9	59	0		4	59	89	0	0	0	0	0
	SWEST TOTAL		704	114	817	157	61	71	87	60	55	78	31	45	59	149	38	60	331	66		74	404	622	0	1	1	4	2

S	Albany, GA	0.78	9.3	1.4	10.7	2.0	1	1	2	1	1	1	0	1	3	2	1.5	1	9	1	0.5	1	10	8				1	
S	Atlanta, GA	0.91	6.7	0.9	7.6	0.5	0	1	1	1	1	1	0	0	3	2	0	1	5	0	0	0	5	5				2	
S	Barksdale, LA	0.89	12.8	0.0	12.8	0.0	2	1	1	1	2	1	0	1	2	3	1	1	8	0	0	0	8	8					
S	Beaufort, SC	1.04	53.2	6.9	60.1	6.2	3	6	4	5	5	6	0	4	8	12	3	4	23	2	1	3	26	39		1		2	2
S	Charleston, SC	0.88	55.7	5.0	60.7	12.1	3	6	5	5	8	6	0	4	13	13	2	4	31	2	1	6	34	45		1		1	
S	Fort Worth, TX	0.88	38.0	2.5	40.5	1.2	2	4	4	3	4	4	0	3	5	8	2	3	17	2	1	1	20	26					
S	Gulfport, MS	0.92	57.2	1.5	58.7	5.2	4	6	4	5	7	6	1	3	18	12	4	4	38	1	1	3	40	37			1	7	3
S	Key West, FL	1.09	17.8	0.7	18.5	3.0	3	2	3	1	5	2	0	1	5	3	2	1	18	1	0	1	19	12		1		1	1
S	Memphis, TN	0.99	9.2	16.3	25.5	11.5	2	3	4	3	4	4	0	2	4	7	1	2	15	2	0	6	17	27					1
S	Meridian, MS	0.95	20.0	3.1	23.1	2.6	1	2	2	2	3	2	0	1	3	5	1	2	10	1	0	1	11	16				1	
S	New Orleans, LA	0.94	25.4	2.5	27.9	7.2	3	3	2	2	4	3	0	2	5	6	1.5	2	16	1	0.5	4	17	21				1	1
S	Panama City, FL	0.80	7.5	0.6	8.1	2.5	1	1	1	1	1	1	0	1	1	2	1	1	5	1	0	1	6	7					
S	Pensacola, FL	0.83	44.8	15.0	59.8	16.9	4	7	8	6	4	7	0	4	5	15	3	5	22	2	1	0	25	53					
S	South Texas, TX	0.90	25.9	5.2	31.1	16.1	3	3	2	3	4	3	0	2	8	7	3	2	20	2	2	8	24	29				1	
	SouthDivTotal		**384**	**62**	**445**	**87**	**32**	**45**	**41**	**38**	**63**	**48**	**1**	**29**	**83**	**95**	**26**	**32**	**236**	**18**	**8**	**45**	**262**	**332**	**0**	**3**	**1**	**17**	**8**
MW	Crane, IN	1.06	13.0	8.0	21.0	4.0	2	2	5	2	3	2	1	1	2	5	1	2	14	1	0	2	15	17					
MW	Great Lakes, IL	1.26	127.0	2.0	129.0	7.0	7	8	7	7	8	8	1	5	8	16	3	5	34	1	0	3	35	52					2
	EFA MW Total		**140**	**10**	**150**	**11**	**9**	**10**	**12**	**8**	**11**	**11**	**2**	**6**	**10**	**21**	**4**	**7**	**48**	**2**	**0**	**6**	**50**	**69**	**0**	**0**	**0**	**0**	**2**
SE	Jacksonville, FL (incls Orlando)	0.93	59.0	0.0	59.0	33.8	3	5	5	5	4	6	0	3	7	11	4	4	23	12	1	17	36	51					
SE	Kings Bay FBC, GA	0.99	12.2	0.1	12.3	38.8	1	1	1	1	0	1	0	1	3	2	1	1	6	5	3	19	14	26					
SE	Mayport, FL	0.93	59.2	0.0	59.2	0.0	2	5	3	5	2	6	0	3	6	11	1	4	14	0	0	0	14	34				1	
	EFA SE Total		**130**	**0**	**131**	**73**	**6**	**12**	**9**	**10**	**6**	**12**	**0**	**7**	**16**	**25**	**6**	**9**	**43**	**17**	**4**	**37**	**64**	**112**	**0**	**0**	**0**	**1**	**0**
	SOUTH TOTAL		**654**	**72**	**726**	**171**	**47**	**67**	**62**	**57**	**70**	**71**	**3**	**42**	**109**	**142**	**36**	**47**	**327**	**37**	**12**	**87**	**376**	**513**	**0**	**3**	**1**	**18**	**10**
	GRAND TOTAL		**3121**	**378**	**3499**	**889**	**256**	**303**	**380**	**256**	**282**	**319**	**111**	**191**	**419**	**637**	**173**	**212**	**1630**	**197**	**33**	**429**	**1877**	**2347**	**6**	**5**	**10**	**54**	**48**
	CONUS		2268.72				190		269		208		95		280		123		1166										

	total	total	total	total	total	total	total	total	CASU (%)				
LANT	18	23	18	10	23	11	100	42	1	0	1	4	5
PAC	13	25	19	3	32	7	100	53	0	0	0	0	0
SWEST	18	26	17	9	18	11	100	76	0	0	0	1	1
SOUTH	14	19	21	1	33	11	100	56	0	1	0	8	3
(Includes service):													
LANT	15	29	15	9	21	12	100						
PAC	11	36	18	3	27	8	100						
SWEST	16	37	14	8	15	10	100						
SOUTH	13	26	19	1	29	13	100						
AVGERAGE	13	32	16	5	23	11	100						

APPENDIX B: STUDY QUESTIONNAIRE

Interview Questions for Non-NAVFAC Organizations

1. Describe your firm's organizational structure with emphasis on the contracts and construction management department. Please include a diagram.

2. With as much detail as possible, please describe the duties of each member of the post-award construction management (CM) team (e.g. project manager, contract specialist, quality assurance).

3. For 2000, 2001, and 2002, provide the following data: 1) total work-in-place dollars and 2) quantity and skill of personnel devoted to post award construction management.

4. Describe the "flow" of funds within your organization to award or modify a construction contract. Is there a member of the CM team with contractual authority to award or modify a contract?

5. How does your firm determine "adequate" staffing for the CM team? Describe any algorithms or methods used? How often is the algorithm or method used to review CM staffing?

6. With respect to question four, was your firm's staffing method utilized during the 2000, 2001, and 2002 years? If no, please explain why staffing methods were not utilized or provide details of the method used and the reason(s) for changing to the existing method.

7. If CM staffing is determined to be inadequate, what measures are taken to ensure adequate staffing and how quickly is the issue addressed?

8. With respect to the CM team, does your firm utilize a permanent home office, field office(s), or both? Provide location and size for all field offices established during 2000 to 2002.

APPENDIX C: THE U.T. SYSTEM DATA

Six Year Activity/Staffing Analysis

Six Year Staff History

	OFPC Budget FTE	OFPC FTE Filled	% Vacant	Contract FTE Filled	Total Filled
FY 98	74	67	9.5%		67.0
FY 99	76	77	-1.3%		77.0
FY 00	78	80	-2.6%		80.0
FY 01	91	86	5.5%	2.5	88.5
FY 02	122	110	9.8%	5.5	115.5
FY 03	135	119	11.9%	10.5	129.5

BUDGET

Projected	Actual
$5,572,000	$4,924,000
$5,961,000	$5,424,000
$6,979,000	$6,379,000
$7,727,000	$7,111,000
$11,087,000	$9,998,000
$11,989,000	$10,480,000

ACTIVITY

	Total Dollars Processed	Active Projects	CIP
FY 98	$216,000,000		$1,720,000,000
FY 99	$182,000,000		$1,860,000,000
FY 00	$290,000,000	$1,358,000,000	$1,850,000,000
FY 01	$320,000,000	$2,060,000,000	$2,880,000,000
FY 02	$360,000,000	$2,480,000,000	$3,610,000,000
FY 03	$450,000,000	$2,815,000,000	$4,150,000,000

RATIOS

$ Processed Per Filled Staff	Active Project $ Per Filled Staff
$3,223,880.60	
$2,363,636.36	
$3,625,000.00	$16,975,000
$3,615,819.21	$23,276,836
$3,116,883.12	$21,471,861
$3,474,903.47	$21,737,452

	Total Dollars Processed	Active Projects	
FY 98	$216,000,000		
FY 99	$182,000,000		
FY 00	$290,000,000	$1,358,000,000	21%
FY 01	$320,000,000	$2,060,000,000	16%
FY 02	$360,000,000	$2,480,000,000	15%
FY 03	$450,000,000	$2,815,000,000	

The University of Texas System Administration

JOB DESCRIPTION

Effective Date: September 1, 1996

Job Title	Resident Construction Manager
Job Code Number	0572
FLSA Category	Exempt

Job Purpose	To provide leadership and direction to construction contractors, architects, and engineers in the design and construction of facilities for component institutions.
Education and experience required including training, registration, and licensure.	Bachelor's degree in architecture or engineering with a minimum of 3 years experience in construction contract administration.
Supervision provided to others.	Yes

Job Functions

Number	Description
1.	Administer contract requirements of construction contracts and agreements.
2.	Provide guidance, support, and leadership to the construction team.
3.	Supervise employees.
4.	Monitor and promote project construction schedule and fiscal status.
5.	Manage construction change order process.
6.	Manage resolution of contractor questions regarding project design and on-site conditions.
7.	Interface with users and institution's administration.

This job description in no way states or implies that these are the only duties to be performed by the employee occupying this position. The incumbent is expected to perform other duties necessary for the effective operation of the department. Any qualifications to be considered as equivalents in lieu of stated minimums require prior approval of the Human Resources Director.

The University of Texas System Administration

JOB DESCRIPTION

Effective Date: September 1, 1996

Job Title	Contract Manager
Job Code Number	0527
FLSA Category	Exempt

Job Purpose	To establish, maintain and review contract document records for all construction projects for U. T. System.
Education and experience required including training, registration, and licensure.	Bachelor's degree in architecture or engineering with a minimum of 5 years project management experience.
Supervision provided to others.	No

Job Functions

Number	Description
1.	Prepare monthly status reports.
2.	Review and process all contractor certificates for payment.
3.	Maintain current and historical records of contract and cost data for all projects.
4.	Coordinate insurance certificate requirements with contractors and insurance providers.
5.	Review construction agreements, bonds, insurance and attachments prior to final execution.
6.	Prepare the "Notice to Proceed" and related documents upon contract approval.

This job description in no way states or implies that these are the only duties to be performed by the employee occupying this position. The incumbent is expected to perform other duties necessary for the effective operation of the department. Any qualifications to be considered as equivalents in lieu of stated minimums require prior approval of the Human Resources Director.

The University of Texas System Administration

JOB DESCRIPTION

Revised: September 1, 1999

Job Title	Project Manager
Job Code Number	0563
FLSA Category	Exempt

Job Purpose	To provide management and direction in assisting component institutions and design professionals on their programs, planning, contract administration, and construction observation of facility construction projects.
Education and experience required including training, registration, and licensure.	Bachelor's degree in architecture or engineering with a minimum of 3 years project management experience. Registration as Professional Architect or Engineer is required or attainable.
Supervision provided to others.	Yes

Job Functions

Number	Description
1.	Manage major capital projects by providing project coordination and conflict resolution guidance.
2.	Support component institutions in pre-project planning activities.
3.	Monitor and evaluate project controls used and take definitive action.
4.	Provide support and guidance to Resident Construction Manager, Inspectors, and component institution staff in management of construction activities.
5.	Supervise contract administration activities.
6.	Review design and construction documents for compliance with project requirements.

This job description in no way states or implies that these are the only duties to be performed by the employee occupying this position. The incumbent is expected to perform other duties necessary for the effective operation of the department. Any qualifications to be considered as equivalents in lieu of stated minimums require prior approval of the Human Resources Director.

The University of Texas System Administration

JOB DESCRIPTION

Effective Date: September 1, 1996

Job Title	Construction Inspector
Job Code Number	5055
FLSA Category	Non-exempt

Job Purpose	To provide skilled, professional duties in the inspection and/or coordination of construction or maintenance of projects.
Education and experience required including training, registration, and licensure.	High school diploma or GED. equivalent with a minimum of 5 years experience in maintenance and construction.
Supervision provided to others.	No

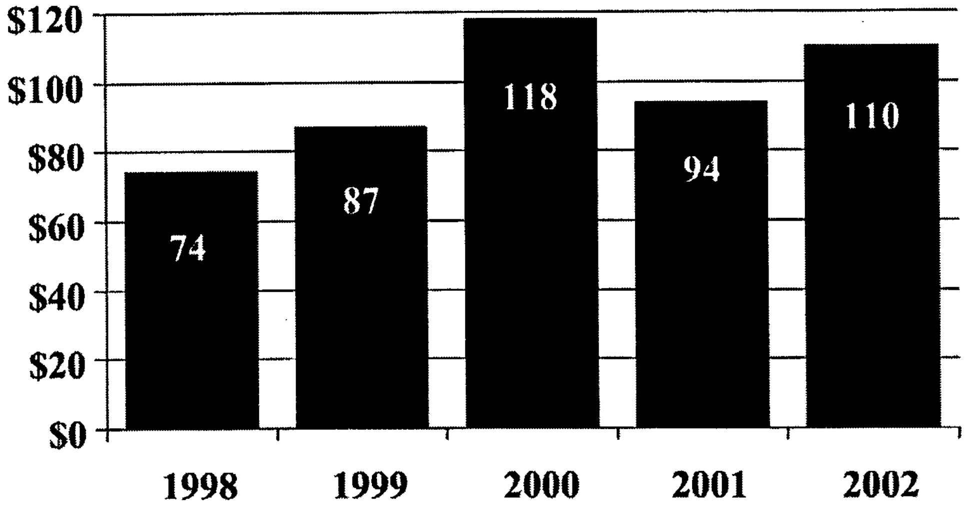
Job Functions

Number	Description
1.	Review and approve architectural, civil, structural, plumbing, electrical, and mechanical shop drawings and other submissions.
2.	Inspect work for compliance with contract provisions.
3.	Maintain job records, text reports and similar documentation.
4.	Assist the Resident Construction Manager in solving problems involving architectural, civil, structural, plumbing, electrical, and mechanical matters.
5.	Coordinate and monitor material testing and air balance testing.
6.	Review and approve monthly requests for payment sent from contractors.

This job description in no way states or implies that these are the only duties to be performed by the employee occupying this position. The incumbent is expected to perform other duties necessary for the effective operation of the department. Any qualifications to be considered as equivalents in lieu of stated minimums require prior approval of the Human Resources Director.

APPENDIX D: TAMU SYSTEM DATA

The Texas A&M University System
Construction Expenditures
By Fiscal Year in Millions



THE TEXAS A&M UNIVERSITY SYSTEM
POSITION DESCRIPTION

HR 182
(2/01)

[illegible]eneral Instructions:

[illegible] Position Description form is used to record the duties, responsibilities, qualifications sought, and fiscal impact of classified and nonclassified staff positions. This information is the basis for determining the title, salary rate, and Fair Labor Standards Act exemption status for staff positions. To achieve these purposes, it is essential that detailed and exact information pertaining to current duties, responsibilities, and qualifications be accurately recorded on this form.

A. Member(s) of TAMU System: **System Administrative and General Offices**	B. Department or Division: **Facilities Construction Division**
C. Member ADLOC Account No.: **01-271130**	D. Source of Funds by Type (E&G, Auxiliary, Restricted, etc.): **Designated**
E. Member Funding Account No. (s) & Account Title(s): **01-271130, Facilities Construction Division**	F. Duration of Position: **Permanent**
G. Place of Work or Headquarters (Bldg. Name and Room No.): **Facilities Planning and Construction - Room 120**	H. Employee's Name (leave blank if position is new or vacant): [redacted]

II. General Information:

A. This Questionnaire: (check box and complete title(s), title code(s), PIN and salary(ies) as appropriate)

☐ Establishes A New Position ☐ Changes A Budgeted Position ☒ Updates Job Description ☐ Determines FLSA Exemption Status

Present Title **Construction Project Manager** *Title Code* 9059

PIN S00128 *Present Salary* ________ *Per* ________ (hour/month/year)

Proposed Title ________ *Title Code* ________

Proposed Salary ________ *Per* ________ (hour/month/year)

[illegible] Secondary costs that will be incurred as a result of this action such as equipment, travel, clerical support, etc. (describe and give amount):

C. Titles and number of employees supervised by this position. If no employees are supervised, indicate "None":
Up to 6 - Supervisory Construction Inspector, Senior Construction Inspector (4), Construction Inspector (1)

D. Is the position of a security sensitive nature (i.e. does it handle cash or System funds, have access to sensitive files or records, or drive a System vehicle)?
Yes

E. Machines or equipment used by this position. Indicate hours during an average week that each piece of equipment is actually used. For most positions the combined total usage will seldom approach 40 hours:

Computer	20 hrs.	**Telephone**	10 hrs.	**Fax Machine**	1 hrs.
Calculator	1 hrs.	**Copier**	1 hrs.		hrs.

F. Qualifications required in filling a future vacancy in this position. Keep the position in mind rather than the current or potential occupant. Physical requirements should be indicated in Section V of this form.

	Necessary Qualifications	Preferred Qualifications
Education:	**Bachelor's Degree in Architecture, Engineering Building Construction or equivalent experience**	
Experience:	**Minimum of ten years in construction with experience as Project Management or middle management experience**	
Licenses, certificates or registration:		**Registration as a Professional Engineer or have the appropriate education and experience necessary to apply for registration. AIC certification.**
Special knowledge, abilities and skills:	**Knowledge of construction principles and practices, ability to read and interpret Contract Documents and the ability to maintain effective relationships with A/E's and Contractors**	
[illegible]er requirements or [illegible]r factors:	**Ability to multi-task and work cooperatively with others.**	

THE TEXAS A&M UNIVERSITY SYSTEM
POSITION DESCRIPTION

HR 182
(2/01)

eneral Instructions:

e Position Description form is used to record the duties, responsibilities, qualifications sought, and fiscal impact of classified and nonclassified staff positions. This information is the basis for determining the title, salary rate, and Fair Labor Standards Act exemption status for staff positions. To achieve these purposes, it is essential that detailed and exact information pertaining to current duties, responsibilities, and qualifications be accurately recorded on this form.

A. Member(s) of TAMU System: **System Administrative and General Offices**	B. Department or Division: **Facilities Administration Division**
C. Member ADLOC Account No.: **01-271110**	D. Source of Funds by Type (E&G, Auxiliary, Restricted, etc.): **Designated**
E. Member Funding Account No. (s) & Account Title(s): **01-271110, Facilities Administration Division**	F. Duration of Position: **Permanent**
G. Place of Work or Headquarters (Bldg. Name and Room No.): **Facilities Planning and Construction**	H. Employee's Name (leave blank if position is new or vacant): [redacted]

II. General Information:

A. This Questionnaire: (check box and complete title(s), title code(s), PIN and salary(ies) as appropriate)

☐ Establishes A New Position ☐ Changes A Budgeted Position ☒ Updates Job Description ☐ Determines FLSA Exemption Status

Present Title **Director, Facilities Construction Division** *Title Code* **9031**

PIN **S00075** *Present Salary* ______ *Per* ______ (hour/month/year)

Proposed Title ______ *Title Code* ______

Proposed Salary ______ *Per* ______ (hour/month/year)

Secondary costs that will be incurred as a result of this action such as equipment, travel, clerical support, etc. (describe and give amount):
None

C. Titles and number of employees supervised by this position. If no employees are supervised, indicate "None":
1-Assistant Director, Construction Division; 3-Construction Project Managers; 1-Mechanical Construction Supervisor; 1-Electrical Construction Supervisor; 1-Civil Construction Supervisor; 1-Administrative Secretary

D. Is the position of a security sensitive nature (i.e. does it require regular handling of large amounts of currency or is the person in situations where funds could be diverted from System accounts for personal use; does the position have access to master keys to sensitive work areas; or is the position afforded access to data files that could result in alteration, deletion or unauthorized access to sensitive System information)?
Yes

E. Machines or equipment used by this position. Indicate hours during an average week that each piece of equipment is actually used. For most positions the combined total usage will seldom approach 40 hours:

Telephone	10 hrs.		hrs.		hrs.
Computer	10 hrs.		hrs.		hrs.

F. Qualifications required in filling a future vacancy in this position. Keep the position in mind rather than the current or potential occupant. Physical requirements should be indicated in Section V of this form.

	Necessary Qualifications	Preferred Qualifications
Education:	**B. S. in Construction Management, Engineering or Architecture**	
Experience:	**Minimum of fifteen years experience in managing large construction programs.**	
Licenses, certificates or registration:		**Registered professional engineer or architect**
cial knowledge, ities and skills:	**Must be willing to travel, physically able to conduct on-site inspection for construction projects and work with people within a structured organization**	
Other requirements or other factors:	**Ability to multi-task and work cooperatively with others.**	

ORIGINAL

THE TEXAS A&M UNIVERSITY SYSTEM
POSITION DESCRIPTION

HR 182
(2/01)

General Instructions:

The Position Description form is used to record the duties, responsibilities, qualifications sought, and fiscal impact of classified and nonclassified staff positions. This information is the basis for determining the title, salary rate, and Fair Labor Standards Act exemption status for staff positions. To achieve these purposes, it is essential that detailed and exact information pertaining to current duties, responsibilities, and qualifications be accurately recorded on this form.

A. Member(s) of TAMU System: **System Administrative and General Offices**	B. Department or Division: **Facilities Planning Division**
C. Member ADLOC Account No.: **01-271120**	D. Source of Funds by Type (E&G, Auxiliary, Restricted, etc.): **Designated**
E. Member Funding Account No. (s) & Account Title(s): **271120 FPD**	F. Duration of Position: **Permanent**
G. Place of Work or Headquarters (Bldg. Name and Room No.): **Facilities Planning and Construction Building**	H. Employee's Name (leave blank if position is new or vacant): -

II. General Information:

A. This Questionnaire: (check box and complete title(s), title code(s), PIN and salary(ies) as appropriate)

☐ Establishes A New Position ☐ Changes A Budgeted Position ☒ Updates Job Description ☐ Determines FLSA Exemption Status

Present Title **Architectural Project Manager** *Title Code* **8680**

PIN **500151** *Present Salary* ____ *Per* ____ (hour/month/year)

Proposed Title ____ *Title Code* ____

Proposed Salary ____ *Per* ____ (hour/month/year)

B. Secondary costs that will be incurred as a result of this action such as equipment, travel, clerical support, etc. (describe and give amount):
None

Titles and number of employees supervised by this position. If no employees are supervised, indicate "None":
None

D. Is the position of a security sensitive nature (i.e. does it require regular handling of large amounts of currency or is the person in situations where funds could be diverted from System accounts for personal use; does the position have access to master keys to sensitive work areas; or is the position afforded access to data files that could result in alteration, deletion or unauthorized access to sensitive System information)?
Yes

E. Machines or equipment used by this position. Indicate hours during an average week that each piece of equipment is actually used. For most positions the combined total usage will seldom approach 40 hours:

Computer	**15** hrs.		hrs.		hrs.
	hrs.		hrs.		hrs.

F. Qualifications required in filling a future vacancy in this position. Keep the position in mind rather than the current or potential occupant. Physical requirements should be indicated in Section V of this form.

	Necessary Qualifications	Preferred Qualifications
Education:	**Bachelor's degree in Architecture or equivalent combination of training and experience.**	
Experience:	**Minimum ten years in design and construction of types of buildings associated with an educational campus, including three years as Project Manager developing design contracts, budgets and coordinating the design team for large projects, and comparable experience related to field construction and contract administration.**	**Minimum fifteen years experience**
Licenses, certificates or registration:	**Professional Architect, registered in the State of Texas**	
Special knowledge, abilities and skills:	**Extensive experience in preparation of design programs for major and complex buildings. Extensive experience and knowledge with building materials technology; ability to review and evaluate designs, aesthetics, building systems and materials proposed for use by consulting architects/engineers; comprehensive knowledge of National and State standards, practices and codes; and direct experience in preparation of design project budget, operations, and contracts with Owners and Consultants.**	**Knowledge of TAMUS standards and practices**
Other requirements or other factors:	**Ability to multi-task and work cooperatively with others.**	

THE TEXAS A&M UNIVERSITY SYSTEM
POSITION DESCRIPTION

HR 182
(2/01)

General Instructions:

The Position Description form is used to record the duties, responsibilities, qualifications sought, and fiscal impact of classified and nonclassified staff positions. This information is the basis for determining the title, salary rate, and Fair Labor Standards Act exemption status for staff positions. staff positions. This information is the basis for determining the title, salary rate, and Fair Labor Standards Act exemption status for staff positions. To achieve these purposes, it is essential that detailed and exact information pertaining to current duties, responsibilities, and qualifications be accurately recorded on this form.

A. Member(s) of TAMU System: **System Administrative and General Offices**	B. Department or Division: **Facilities Construction Division**
C. Member ADLOC Account No.: **01-271130**	D. Source of Funds by Type (E&G, Auxiliary, Restricted, etc.): **Designated**
E. Member Funding Account No. (s) & Account Title(s): **01-271130, Facilities Construction Division**	F Duration of Position: **Permanent**
G. Place of Work or Headquarters (Bldg. Name and Room No.): **Facilities Planning and Construction - Room 120**	H. Employee's Name (leave blank if position is new or vacant): [redacted]

II. General Information:

A. This Questionnaire: (check box and complete title(s), title code(s), PIN and salary(ies) as appropriate)

☐ Establishes A New Position ☐ Changes A Budgeted Position ☒ Updates Job Description ☐ Determines FLSA Exemption Status

Present Title **Senior Construction Inspector** *Title Code* **9463**

PIN **S24095** *Present Salary* ____________ *Per* ________ (hour/month/year)

Proposed Title ______________________________ *Title Code* __________

Proposed Salary ____________________ *Per* ________ (hour/month/year)

B. Secondary costs that will be incurred as a result of this action such as equipment, travel, clerical support, etc. (describe and give amount):

C. Titles and number of employees supervised by this position. If no employees are supervised, indicate "None":
NONE

D. Is the position of a security sensitive nature (i.e. does it handle cash or System funds, have access to sensitive files or records, or drive a System vehicle)?
YES

E. Machines or equipment used by this position. Indicate hours during an average week that each piece of equipment is actually used. For most positions the combined total usage will seldom approach 40 hours:

Computer	hrs.	**Telephone**	10 hrs.	**Fax Machine**	2 hrs.
Calculator	hrs.	**Copier**	2 hrs.		hrs.

F. Qualifications required in filling a future vacancy in this position. Keep the position in mind rather than the current or potential occupant. Physical requirements should be indicated in Section V of this form.

	Necessary Qualifications	Preferred Qualifications
Education:	**Bachelor's Degree in Architecture, Engineering or Building Construction. Appropriate experience may be substituted for education**	
Experience:	**Minimum ten years in construction related work. Bachelor's Degree in Architecture, Engineering or Building Construction may be substituted for four years of experience**	
Licenses, certificates or registration:		
Special knowledge, abilities and skills:	**Knowledge of construction principles and practice. Ability to read and interpret Contract Documents and the ability to maintain an effective relationship with project A/E's, contractors and users.**	**Travel to Kingsville**
Other requirements or other factors:	**Ability to multi-task and work cooperatively with others.**	

APPENDIX E: THE DUPONT COMPANY DATA

CM - Construction Management

- FC&S – DuPont Construction Management, DuPont (owner) CM roll work force
- CMC – Construction Management Contractor, CM contractor located at the site, part of the EPCM contractor for the project

Basis – typical large project, construction strategy mainly lump sum contracting, but usually with some amount of cost reimbursable contracting methods

1. Describe DuPont's CM Organizational Structure

    - DuPont – business owner of the facility being built, science company
        - DuPont Global Services – provides a range of services to the owner businesses
            - DuPont Engineering, Facilities & SHE (safety, health, environmental) services – Engineering part
                - DuCap (DuPont Capital Asset Productivity) – Project planning & execution
                    - DuPont FC&S (Facilities construction & support) – Construction Management
                        - Construction Managers/Leads
                        - Construction Engineers
                        - Construction Safety Professionals
                        - Construction Craft Consultants
                            - E&I (Electrical, instrumentation, controls) Consultants
                            - Mechanical (Equipment, piping) Consultants
                            - CSA (Concrete, structural, architectural, civil) Consultant
                            - Quality Consultant
                        - BC&S (Business Controls & Solutions) – Construction Business services
                        - CMC – Construction Management Contractor
                            - CMC CM staff
                            - Lump Sum Contractors CM
                                - Lump Sum Contractors CM Staff

2. Describe duties of Construction Management Staff

DuPont FC&S CM

- Construction Manager/Lead – full time – project site location
    - Has total construction responsibility for the project
    - Involves the part time DuPont CM staff as needed
    - Provide oversight of the Construction Management Contractor
    - Provide renewal training to the Construction Engineer
- Construction Engineer – full time – project site location
    - Assist the DuPont Construction Manager
    - Renewal
- Safety Professional Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor
- Construction Business Services Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor
    - Execute payments to the construction contractors
- Quality Craft Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor
- Civil, structural, architectural Craft Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor
- Mechanical Craft Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor
- Electrical and Instrumentation Craft Consultant – part time – regional location
    - Audit, set expectations, and provide training/assistance to the Construction Management Contractor

Construction Management Contractor CM

- Construction Manager – full time – project site location
    - Has total responsibility for his staff. Also responsible for management of the construction contractors. Reports to the DuPont FC&S Construction Manager
- Construction Engineer – full time – project site location
    - Assist the construction manager.
    - Scheduler
    - Trouble shooter
- Safety person – full time – project site location
    - Responsible for implementation of the project's construction safety plan

- Contract administrator – full time – project site location
    - Responsible for all official communications with the construction contractors
- Cost control person – full time – project site location
    - Responsible for cost control of all construction costs
- Receiving person – full time – project site location
    - Receives and issues to the construction contractors equipment and materials procured by the engineering/procurement group
- Civil, structural, architectural superintendent – full time – project site location
    - Field contractor administrator for the civil, structural and architectural construction contractors
- Mechanical superintendent – full time – project site location
    - Field contractor administrator for the mechanical construction contractors
- Electrical and Instrumentation superintendent – full time – project site location
    - Field contractor administrator for the electrical and instrumentation construction contractors
- Quality Supervisor – full time – project site location
    - Responsible for implementation of the project's construction quality plan

Lump sum contractors CM

- Construction Manager
- Safety person
- Quality person
- Rest varies depending on type and size of contract

3. Total Yearly Construction volume, and CM staff quantity and skill
    - $ Value
        - 2000 $1.9 billion
        - 2001 $1.5 billion
        - 2002 $1.4 billion

    CM staff

    - FC&S CM staff
        - 100-125 DuPonters
        - Vast majority with over 20 years experience and highly skilled
    - CMC contractor staff
        - Varies by project and by CMC contractor, say 3 to 4 times the number of CM DuPonters, or 10% of the lump sum contracts value, say 300-400.
        - Skill varies, not always at expectation level
    - Lump sum CM staff
        - Varies greatly by lump sum contract size and type

  - Skill varies greatly, usually not at expected level

4. Describe flow of funds

- Project Authorization
- EPCM production design
- EPCM issues design package for review
- FC&S and CMC review design package for quality and completeness
- EPCM issues bid package to lump sum contractors for bids
- EPCM evaluates bids and issues recommendation to FC&S CM
- With recommendation agreed to, EPCM awards contract. For large dollar values, DuPont Sourcing approval is required. DuPont Sourcing is part of DuPont Global Services but separate from DuPont Engineering.
- Construction contractor invoices CM contractor for progress payment in alignment with contract requirements
- CMC evaluates invoices and approves
- DuPont construction manager approves invoices
- Approved invoice sent to regional DuPont BC&S (accounts payable) who inputs into DuPont system for payment
- DuPont issues payment to lump sum contractor
- Contract alteration
  - Contract award
  - FRI (request for information) is generated by construction contractor or by CMC contract administrator to document all communications, examples:
    - New design
    - Design change
    - Clarifications
    - Claims
    - Information –changes to work week
    - Schedule changes
  - CMC contract administrator issues CCR (contract change request) to the construction contractor, requesting quote for the change and schedule impact
  - Construction contractor submits price and schedule impact to the CM contractor contract administrator
  - CMC contract administrator reviews with appropriate CM staff members and design, and if agreed to, submits XWO (extra work order) for approval by CM construction manager
  - If approved, XWO submitted to DuPont construction manager/leader for approval
  - If approved, XWO is issued to construction contractor
  - The contract, at any point in time, includes the original authorized contract, plus all authorized XWO's. If the change is significant, the contract will be altered after going through the above process. Then, the contract, at any

  point in time, includes the altered authorized contract, plus all authorized XWO's, not included in the alteration.
  - Construction contractor invoices CMC for periodical progress payment as shown above.

5. The DuPont construction manager/lead develops the CM staffing plan for the project, to include both DuPont CM staff and the CMC CM staff. DuPont keeps historical data on CM staff costs as a per cent to compare each project to.
6. Staffing Method
   - 2000 – Same
   - 2001 – Same
   - 2002 - Same
7. Inadequate CM staff size – If the DuPont construction manager determines that the CM staff is undersize, he will ASAP:
   - Determine if the CM contractor can add staff and direct him to do so
   - Increase involvement by the part time DuPont CM consultants as needed
8. Construction Management Staff Location
   - DuPont CM staff location – Full time project specific staff members, usually the construction manager/lead and the construction engineer, are located at the project site location, for the duration of the project. Part time regional staff members are located either at the home office location, or at a site location, permanently.
   - CM contractor staff Location – Located at the project site location for the duration of their part of the project.

GLOSSARY

NAVFAC Terminology

Assistant Resident Engineer in Charge of Construction (AREICC). Also known as a Project Manager, a civilian engineer designated by the ROICC to administer construction contracts.

Assistant Resident Officer in Charge of Construction (AROICC). A CEC officer (junior in rank to the ROICC) designated by the ROICC to administer construction contracts.

Civil Engineer Corps (CEC). An officer staff corps in the U. S. Navy specializing in construction management, facilities management and contingency engineering.

Engineering Field Activity (EFA). A subordinate activity of an EFD. EFA's have similar functions as EFD's but are smaller in size. There are currently seven EFA's within NAVFAC.

Engineering Field Division (EFD). The regional engineering activity responsible for facility acquisition: contract award, issue contract warrants, and provide field guidance and environmental regulation. NAVFAC is divided among four EFD's.

Field Office. A subordinate organizational element of a respective NAVFAC Engineering Field Division/Activity at the naval activity/base level. Also known as the Resident Officer in Charge of Construction (ROICC) offices. The ROICC offices execute and administer construction, facilities service and A/E design contracts.

KO – Contracting Officer

Resident Engineer in Charge of Construction (REICC). A civilian engineer at the Field Office level designated by the ROICC for technical support and oversight of projects.

Resident Officer in Charge of Construction (ROICC). A Civil Engineer Corps officer responsible for the overall management of the office and the administration of assigned contracts. Contracting authority is delegated to the ROICC by the Engineering Field Division/Activity. As a contracting officer, the ROICC has the authority to enter, modify or terminate a contract in compliance with the Federal Acquisition Regulation and other applicable federal laws.

Work-in-place (WIP). The value of construction, repair, and maintenance work put in place, during a specific period, including paid materials on site and certified land acquisition

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VITA

Joshua Jon Gamez was born on November 26, 1974, in Corpus Christi, Texas. Navy life moved Joshua's family from Texas to Maryland to Virginia before settling down in Port Angeles, Washington. He graduated from Port Angeles High School in 1993 and attended Peninsula College until transferring to the University of Washington in 1995. In 1997, he graduated from the University of Washington with a Bachelor of Science Degree in Mechanical Engineering. In January 1998, he reported to Officer Candidate School in Pensacola, Florida and was commissioned an Ensign in the U.S. Navy Civil Engineer Corps. Tours of duty include the Southern Division South Texas Field Office and U.S. Navy Public Works Center, Guam. He is married to the former AnaMaria DeLeon of Port Angeles, Washington. They have two sons, Gavin Daniel (2) and Adrian Jesus (6 months). He began the Master of Science in Construction Engineering and Project Management at the University of Texas at Austin in September 2002.

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This dissertation was typed by Joshua Jon Gamez.